DOCTORAL THESIS

Behaviour problems among adolescents in clinical and community settings from frequency to prevention

Allan, Sharon

Award date:
2020

Awarding institution:
University of Roehampton

BEHAVIOUR PROBLEMS AMONG ADOLESCENTS IN CLINICAL AND COMMUNITY SETTINGS: FROM FREQUENCY TO PREVENTION

By

Sharon Allan, B.Sc., M.Sc.

Thesis submitted in partial fulfilment of the

requirements for the degree of PhD

Department of Psychology

University of Roehampton

2019

ABSTRACT

Behaviour problems are the main reason for referral to Child and Adolescent Mental Health Services (CAMHS). Understanding factors contributing to the high prevalence of behaviour problems in adolescents is paramount to inform psychological prevention programmes. Most studies separately examine the frequency/correlates of behaviour problems in either clinical or community settings using different research designs. Due to differences in clinical features of adolescents by setting, comparisons of the frequency and correlates of behaviour problems using the same research design are needed, to develop succesful interventions. This research aims to examine/compare the frequency and correlates of adolescents behaviour problems in community and clinical samples, to adapt a transdiagnostic CBT-based programme to prevent the development of mental health problems. To achieve these aims, five studies were conducted. Study 1 (N=318) compared the prevalence of behaviour problems (BP) among adolescents in community and clinical settings in South West London. Studies 2 to 3 (N=318) examined and compared the association between behaviour problems and a wide range of correlates using questionnaires (Study 2) and quasi-experimental design (Study 3, N=27). Study 4 examined the association between behaviour problems and mental health problems (N=318). Study 5 (N=112) explored the efficacy of a newly adapted transdiagnostic intervention programme. The adolescents were randomly allocated to either an intervention or wait-list control group, with assessments done: pre-post intervention and six-months after the intervention

Results showed adolescents in the clinical compared to the community settings had higher levels of behavior problems (Study 1), and callous-unemotional traits, 19.5%

(Study 2). In Studies 3 and 4, behavior problems were associated with problems in executive functioning and mental health problems, respectively. Finally, adolescents who participated in the Super Skills for Life programme showed significant reductions in mental health problems at post- and six-month follow-up intervention, these research projects have strong clinical implications.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACKNOWLEDGEMENTS

I have been privileged and blessed to have Prof. Cecilia A. Essau as my Director of Studies for the duration of my PhD. Prof. Essau has been extremely patient; supportive; inspiring and motivating throughout many a difficult time. Her guidance and understanding were always appreciated and her belief in me, even if at times I doubted myself pulled me through. I would also like to thank my second supervisor, Dr Catherine Gilvarry, for all her advice, and time. I also extend thanks to Dr Jean O'Callaghan, Dr Kieran Balloo and Becky Street for their help. I am appreciative to all the adolescents and the schools that have taken part over the years and I have genuinely learnt a lot from them and admire their resilience often in the face of extreme adversity.

I have really enjoyed my time at the University of Roehampton; firstly, as an undergraduate Psychology student with two babies in the University nursery (then aged 9 months and 2 years) and then as an M.sc student in Applied psychological research, leading to my work with Prof. Essau as a senior research assistant. I was also privileged to be able to work part-time as a learning support assistant; also, an administrator for Media, Culture, and language, as well as being a visiting lecturer in Health Psychology with Dr Patrick Brady and as a demonstrator for research methods. Along the way, I have made great friends with my fellow students (Gemma; Charlotte; Wendy; Sonia; Jayshree; Alina, Blossom and Constantina) and my work colleagues (Cecilia, Lourdes; Dave; Sarah Gartland and Vicens). I am very grateful to all my fellow students and colleagues for being there to support and

encourage me. To all my friends, thank you for all the support along the way, especially through the challenging times.

Finally, special thanks to my family who have always been there for me whenever I needed advice or encouragement, they have been both supportive and motivating. My husband Brian; my wonderful dad (John) & my Auntie Sally; my daughters: Eloise; Holly; Emily Jane & Jessica and my sons Terry, Simon, and our angel in heaven our son Rhys. As well as my lovely Brother Paul; Sister in law Julie; my mum Anne and all my many other relatives and friends whom I hope are watching from heaven. Finally, my amazing sister Jacqui; my wonderful friends: Lisa; Katherine; Erica; Sarah; Gina & Tanya (Niece). Thanks, Uncle Bobby, and Neil Thubron for reminding me why I was doing the PhD. I am truly blessed and fortunate and understand that without my newly found religion following the tragic loss of my brother Paul, I would be in a hugely different place now.

INTRODUCTION

1.1. Context of the Thesis

"And these children that you spit on. As they try to change their worlds. Are immune to your consultations. They are quite aware of what they are going through. - Changes" - David Bowie

Behavioural problems are among the main reasons for referral to child and adolescent mental health services [C.A.M.H.S] and are a public health problem (Campbell, Harris, & Lee, 1995; Feldman & Kazdin, 1995; Hann, 2002). Behavioural problems have been reported to have a moderately to highly constant course, with persistent rates throughout adolescence (11-17 years) ranging from 44% to as high as 88% (Lahey, Van Hulle, Waldman, Rodgers, D'Onofrio, Pedlow, Rathouz, & Keenan, 2006). Depending on the age of onset and severity, behavioural problems could have different trajectories: childhood-onset type (i.e., the onset of behavioural problems prior to age 10 years) or adolescent-onset type (i.e., onset the onset of behavioural problems after the age of 10 years) (Moffit,2006).

The developmental courses of behavioural problems seem quite predictable. If left untreated, childhood-onset behavioural problems can lead to high rates of substance abuse, risky and nonintentional sexual behaviour in later adolescence, and often progress to the development of antisocial personality disorder in adulthood (Wiesner, Kim & Capaldi, 2005). Among individuals with adolescent-onset behavioural problems, the outcome can be better. The prognosis is even better if individuals do not have a history of aggression with earlier conduct problems, with offences being

primarily related to property crimes, for example, stealing (McMahon & Wells, 1998).

Numerous studies have looked at a range of risk factors that are associated with adolescents' behavioural problems, including CU traits, self-esteem (Tafarodi, & Milne, 2002), impulsivity, empathy, self-control, hostile bias (Dahnke, 2013), and peer attachment (Stevens, Dueling, & Armenakis, 2012). However, most of these findings come from studies conducted either in clinical or community samples separately. Furthermore, the association between behaviour problems and psychopathic traits, executive functioning has rarely been explored. Information collected from clinical settings is not representative of adolescents with behaviour problems in the general population, due to an individual irregularity in accessing services, such as availability and choice in terms of help-seeking behaviour, (Wittchen & Essau, 1991).

Furthermore, risk factors are complex there could also be attributed to differences in an attachment (Brown, & Wright, 2003) and home environment (Steinhausen, Metzke, Meier, & Kannenberg,1998), specifically among adolescents in clinical settings. Studies conducted in community settings could produce findings of greater generalisability than studies of clinical samples (Wittchen & Essau,1991). Consequently, a comparison of adolescents in both settings is of importance because it enables the examination of specific family and other factors that might also be characteristics of both youth in the community and clinical settings or unique to only one setting.

Therefore, the overall aim of the present thesis was to examine a wide range of correlates that are associated with behaviour problems in adolescents from two different settings. The factors to be examined include CU traits, self-esteem, impulsivity, empathy, self-control, hostile bias, and peer attachment among adolescents in both clinical and community settings. These findings were used to inform the adaptation of a transdiagnostic CBT-based group school-based programme (Super Skills for Life; SSL; Essau & Ollendick, 2013) – child version to be used among adolescents.

The present research contributes to knowledge in at least three ways. Firstly, to our knowledge, this is the first study that directly compared the frequency of behaviour problems among adolescents in community and clinical settings. Secondly, this study examined and compared a wide range of factors that increase the risk of adolescents in developing behaviour problems in clinical and community settings. Thirdly, this information will allow the intervention to be tailored to adolescents in a specific setting (community or clinical), with/without CU traits. Previous research by Caldwell, McCormick, Wolfe, and Umstead, (2012) found success when treatment for psychopathy targeted adolescents who were on a high-risk path towards developing the condition as adults (Odgers, Caspi, Poulton, Harrington, Thomson, Broadbent, Dickson, Sears, Hancox, & Moffitt, 2007). Treatment focusing on interpersonal relationships and social skills was linked with a reduction in reoffending in high-risk juvenile offenders when compared to high-risk youth who did not receive treatment, leading to a clear reduction in the tendency for both aggression (Stemmler, 1997) and CU traits (Caldwell, 2013).

Therefore, the present thesis aimed to investigate the prevalence of behaviour problems and its correlates (e.g., executive functioning, CU traits) in adolescents. Findings from such a study have implications for health care providers who should aim to develop and implement prevention and intervention programmes that are specific to each setting (clinical or community).

Research only began around twenty years ago, to identify the specific developmental courses of major mental health problems in children and adolescents to enable preventative programmes to time both interventions and assess its impact successfully (Durlak & Wells, 1997). However, despite the twenty years that have passed the complex interaction of risk factors for the development of behaviour problems in adolescents is still evolving, and there seems to be more questions than answers appearing. Advances in this research should help public services to further develop a transdiagnostic intervention/prevention programme to prevent or help treat behaviour problems in teenagers specific to their setting (clinical or community). Additionally, by conducting this preventative intervention in groups should enable the maximum number of adolescents to receive intervention at one time, at a time when waitlists for specialist services such as Child and Adolescent Mental Health Services (CAMHS) are at an all-time high.

1.2. Objectives of the Thesis

This thesis compared the frequency and correlates of behaviour problems among adolescents in community and clinical settings in South West London. This information was used to inform the adaptation of a transdiagnostic programme. Thus, another aim was to examine the efficacy of an adapted transdiagnostic CBT-group-based intervention programme in reducing mental health problems in adolescents.

The specific aims of the research programme are to:

- Compare the prevalence of behaviour problems among adolescents in community and clinical settings in South West London (Study 1: Chapter 3).

- Examine the association between behaviour problems and CU traits (Study 2: Chapter 4).

- Examine the relationship between executive functionsand behaviour problems among adolescents in community and clinical settings (Study 3: Chapter 5).

- Examine the association between behaviour and mental health problems among adolescents in community and clinical settings, as well as to compare the prevalence of mental health problems in these two settings (Study 4: Chapter 6).

- - Explore the efficacy of a newly adapted transdiagnostic intervention programme (Study 5: Chapter 7).

In the present study, the term behaviour problems will be used. It includes symptoms the terms ‘antisocial behaviour, delinquency, CD and ODD’ which are experienced

as considerable distress and substantial interference with personal functions (Williams & Kerfoot, 2005).

1.3. Theories of adolescence

There are a number of different theories or ways of looking at adolescent development (see table above). Each theory has a unique focus, but across theories there are many similar elements. While it is true that each teenager is an individual with a unique personality and interests, there are also numerous developmental issues that just about every teen face during the early, middle and late adolescent years (AACAP, 2003).

Adolescence can be broadly categorized as three stages – early adolescence (approx. age 11 to 13 years), middle adolescence (approx. age 14 to 17 years), and late adolescence (approx. age 17 to 19 years).

Theories of crime recognise adolescence as a particularly vulnerable period for likelihood of engaging in criminal type behaviours. Criminal behaviour in this period may be either short term or long term and different factors influence this.

From a developmental perspective Moffit's dual taxonomy theory attempts to explain two qualitatively different groups of individuals. The theory differentiates between offending behaviour that is life course persistent (starts in early childhood and is maintained throughout development and continues into adult life) and offending that begins in adolescence and stops in early adulthood.

This theory proposes that neuropsychological vulnerabilities (genetic) during childhood interact with criminogenic (crime promoting) environments. This negative interaction produces life course persistent group of individuals whose criminal behaviour is more constant. Conversely the Adolescent onset group is derived from the maturity gap between biological and sociological maturity, whereby a young person may be biologically mature but is unable to access the status of adulthood. In this

Developmental Area	Primary Theorist	Main focus

way this adolescent limited offending is seen as transitional, adaptive, and flexible but not pathological. The delinquent status allows adolescents to access a desirable status that can then be replaced by more socially acceptable and rewarding pursuits in adult roles.

Biological	Hall & Tanner	Focus of the period is physical and sexual development determined by genes and biology
Psychological	Freud, S. Freud, A.	Focus on adolescence as a period of sexual excitement and anxiety.
Psychosocial	Erikson	Focus is on identity formation; adolescents struggle between achieving identity and identity diffusion.
Cognitive	Piaget	Focus is on formal operational thought; moving beyond concrete, actual experiences and beginning to think in logical and abstract terms.
Ecological (interaction between individual & environment)	Bronfenbrenner	Focus is on the context in which adolescents develop; adolescents are influenced by family, peers, religion, schools, the media, community, and world events.
Social Cognitive learning	Bandura	Focus is on the relationship between social and environmental factors and their influence on behaviour. Children learn through modelling.
Cultural	Mead & Giligan	Focus is on the culture in which the child grows up.

Figure 1:1 Theories of Adolescence

1.4. Brief history of behavioural problems

Adolescent antisocial behaviour is often described as a new phenomenon, ‘a sign of the times,’ however, an iconic study in British criminology published in 1983, demonstrates that fear of adolescents has a long history. This historical study named ‘Hooligans’ suggested that the portrayal of youth as problematic has been evident throughout history, however, each generation misrepresent it as ‘a new phenomenon’ (Pearson, 1983). What has changed however is the way in which terms such as ‘hooligan” is described; delinquent evolved after the emergence of adolescence as a defined developmental period into adulthood (Springhall, 1977, 1984 & 1996). Further research led to the identification of what is now known as a behaviour problems or Antisocial behaviour (Patterson, Reid & Dishion, 1992), and finally the medicalisation of these issues with the addition of Conduct disorder and Oppositional defiant disorder in the classification system (Romano, Tremblay & Vitaro, 2001).

1.4.1. Defining Youth

From as far back as the middle ages, the transition from childhood to adulthood (typically 14-25 years) is often seen as a problematic time, due to biological, physiological, and emotional changes. This period is distinct from puberty as it encompasses the results of both cultural and biological factors (Arnett, 2006).

Figure 1:2 The three distinct stages of transition from childhood to adulthood. (Pearson, 1983)

The distinct stages from childhood to becoming an adult account for the many issues that occur at this difficult stage of change. A separation occurs at the start of adolescence whereby young people start to want more contact with their peers and less with their immediate family. In this stage, the adolescent detaches from their 'old' social position and separates themselves from the rest of society. The next stage transition where changes occur, can be temporary, for example in appearance such as changing hair colour; and body piercing. The symbolic acts separate the person as changed from their previous status, beginning a route to a new status. This period prepares the young person for adulthood and signals a beginning of independent decision making. Throughout the separation and transition period are times of experimentation that lead to a discovery of self. The final stage involves reintegrating the adolescent back into society into their new social role. During this period even the most well-behaved children will exhibit some levels of defiance or similar behaviour, which is a typical part of adolescence. Some young people, however, will consistently exhibit more severe behaviour that could be the start of long-term behaviour problems. Figure 1.2 below is a quick guide to some typical behaviours and other signs of emerging behavioural problems

Typical teenage behaviour	Possible cause for concern
• Wanting to spend more time with peers and less time with family. • Reluctance to get up early for school. • Going from happy/joyful to sad worried preoccupied irritable and angry. • Being argumentative, sceptical, questioning, doubting, disobedient are all typical irrespective of how they have been raised or how good they are.	• Not wanting to spend time with anyone, neither peers nor family • Absolute refusal to attend school • Mood changes are intense rapid or happening consistently such as sudden changes in academic performance or change in sleep pattern and/or inability to cope. • Being too good; too nice; focus on others or fear of mistakes is a reason for concern. or Constant and consistent escalation of arguments; skipping school; legal problems etc

Figure 1:3 Examples of comparisons of typical versus cause for concern teenage behaviours (Pearson, 1983).

This period of transition lacks a confirmed social status, they are neither child nor adult; it is a stage of uncertainty and has been so throughout time (Ben-Amos, 1991 &1995; Cook-Sather, 2008).

1.4.2. Brief historical summary of behaviour problem in adolescents

Behaviour problems in adolescence has always been a key theme for anxieties amongst many different cultures. Anxieties stem from adolescents being branded as troublesome due to the way they dress, their leisure pursuits and their use of public spaces, with influences from street gambling (Victorian era) to Gangster Rap (Dupire, Lacourse, Willms, Vitaro, & Tremblay, 2007; Pearson,2009; Punch, 2014). Moral and religious ideals identify adolescents as dangerous, whereby society needs protection from them, but conversely, society needs to protect adolescents from

themselves and their own desires (Muncie, 2004). This period creates anxiety, as it represents adolescence as a period of significant risk, with the potential to be moulded either positively or negatively (Jones, Happe, Gilbert, Burnett, & Viding, 2010; Synnott, 1983).

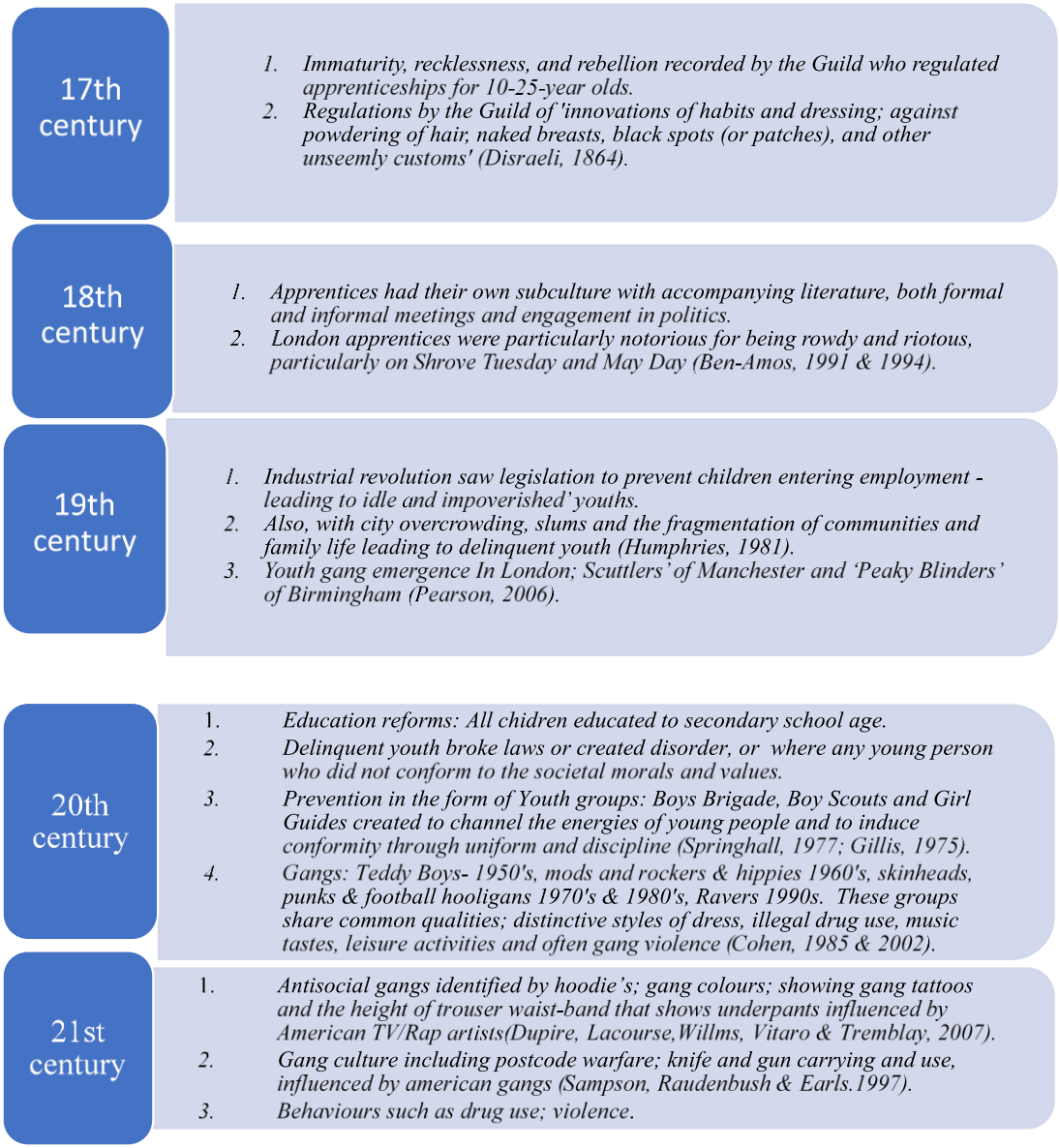

Figure 1:4 Examples of troublesome youth across time (Pearson, 1983)

Figure 1.4 above illuminates discussions of crime, youth justice and perception of and fear of young people has a long history, and that pockets of society are often blamed for being 'soft' and creating conditions in which youth crime flourishes (Muncie, 2006 & 2009); political and media interest in bad behaviour re-enforces it; and there is a link between the economic and social confidence of a country such as times of austerity and the prevalence of moral panics (Wall, Taylor, Dixon, Conchie, & Ellis, 2013). It also highlights the false memories of a golden era, usually about twenty years earlier, when young people are often falsely remembered as being better behaved. This generations 'anti-social' youth is simply a new name for the last generation's hooligan or troublesome youth (Pearson, 2006).

1.5. Behavioural problems

Adolescence is a critical time for preventing behaviour problems. Adolescents (ages 12–18) are consistently involved in behaviours that lead to accidental injuries, death, and/or societal difficulties such as drug use, violence, and crime (Centers for Disease Control & Prevention [CDCP], 2014). Behaviours, beginning in adolescence, often continue into young adulthood, often increasing in severity and stability over time (Neinstein, Lu, Perez, & Tysinger, 2013; Pardini, Lochman & Powell,2007). Research has tried to identify why adolescents choose to engage in activities that impede their health and long-term goals (Steinberg, 2005). Previous research has usually focused on adolescents' biologically based reward-system, which drives them to pursue the social and emotional rewards of risky and antisocial choices. However,

this can be seen as only one aspect of decision making (Ernst et al., 2005; Fischhoff, 2008), the other part is the cognitive regulation system, (the counterpart to their reward-drive) which is also part of behavioural choices (Van Duijvenvoorde, Jansen, Bredman, & Huizenga, 2012).

The dual system models of decision-making highlight cognitive control (or lack off) as the other part of why adolescents engage in behaviour problems and that this occurs due to underdeveloped control not being comparative to reward drive (Steinberg, 2005). This model is known as the 'developmental-lag model' which suggests that there is a discrepancy between a developed excitatory system and an emerging cognitive system, so behavioural control in risky and antisocial contexts has not developed (Casey, Jones, & Somerville, 2011; Somerville, Jones, & Casey, 2010). The critical "developmental mismatch" theories (e.g. Romer, 2010) are disagreed with by some researchers who claim that the control system is not less developed than the effective system. These researchers state instead that it is the connections among control systems that are less perfect so that this instrument for regulating problematic or dangerous behaviour does not operate as regularly as the reward system (Crone, 2009; Luciana, 2013). However, both viewpoints infer that cognitive control is related to adolescents' attraction to risky or behaviour problems and that to find the outcome of control cognitions on behaviour requires considering or including small but important differences.

1.5.1. Anti-social behaviour

‘Anti-social behaviour’ (ASB) represented a new category of pre-criminal behaviour and was constructed in political rhetoric as any behaviour which adversely affected the ‘quality of life’ of the ordinary law-abiding citizen of Britain (Warr, 2002). From nuisance to low-level criminality, ASB encompasses any behaviours which cause (or are likely to cause) “harassment, alarm or distress” to other people (Home Office, 1986; 1987a&b; 1997a&b;1998).

The Crime and Disorder Act 1998 (CDA) started a political campaign against ‘anti-social behaviour’ (Muncie, 1999). The Anti-social Behaviour Order (ASBO) was the most famous of the new measures announced by the CDA, which placed limitations on people who acted in an anti-social way to prevent ASB. When a review was conducted of ASBO’s in 2002 it was discovered that 74% had been issued (1999 – 2002) against young people under the age of 21, although this was not its original intention (Campbell, Shaw & Gilliom 2000). By 2002, anti-social behaviour became a ‘youth issue’ and the ASB Act 2003 introduced new youth-focused measures and strengthened existing measures in the ASB Agenda to tackle youths (Home Office 2003a, 2003b, 2004a, 2004b, 2004b, 2011). The creation of young people as anti-social proposes that they are ‘in contradiction of’ society and separate from the mainstream population, reinforcing beliefs that they are a threat to social order (Cohen, Cohen, Kasen,Velez, Hartmark, Johnson,Rojas, Brook, & Steuning, 1993; Pearson, 1983). Each generation identifies young people with the potential to cause the downfall of society, as the transition from childhood to adulthood is a period of a threat to the wider community (Roberts, Roberts & Xing, 2007).

Some delinquent (ASB) activities are included in the criteria of conduct disorder (CD), contrary to this though not all adolescents with CD are delinquent. Historically, delinquency is a term used to describe antisocial youth in both earlier literature and Criminology before the diagnosis of CD existed.

1.5.2. Conduct disorder/Oppositional defiant disorder

CD is a diagnostic category within the medical model and mental health services use two diagnostic manuals: The World Health Organisation (WHO) publishes The International Classification of Diseases (ICD) and the American Psychiatric Association (APA) publishes the Diagnostic and Statistical Manual (DSM). The first clinical diagnosis of conduct problems came into existence in DSM-II (1968) and ICD-8 (1969) under the term "Behaviour disorders of childhood". By 1980 the disorder separated in DSM-III (Feehan, McGee, Raja & Williams, 1994; Fergusson & Horwood, Lynskey, 1993), into the different diagnoses of Oppositional Defiant Disorder (ODD) and CD to differentiate between two distinct groups of symptoms (1992).

The critical features of CD are focused around the violation of basic rights of others or major age-appropriate societal norms other (WHO 2004). The behaviour can be grouped into four main categories that together make up the diagnostic criteria: Aggressive behaviour that may cause or threatens to physically harm other people or animals, behaviour causing loss or damage to property, deceitfulness or theft, and serious violations of rules, these must have been evident for at least 12 months and cause significant impairment in daily life (APA 1994).

ODD has many of the features of CD, but without the physical aggression and the seriousness of CD. The key features of ODD are negativistic, defiant, disobedient, and hostile behaviour towards authority figures. Individuals with ODD have difficulty controlling their temper, blaming others for their own mistakes, being easily annoyed and actively refusing to comply with requests from adults (Nock, Kazdin, Hiripi & Kessler,2007; Stringaris & Goodman, 2009); these must be present for more than six months before a diagnosis can be given (APA 1994).

There is still disagreement whether ODD and CD are qualitatively or quantitatively different from each other. However, in DSM-IV ODD is viewed as a less severe version of CD (Kessler, Avenevoli, Costello, Georgiades, Green, Gruber, Jian-ping, Koretz,, McLaughlin, Petukhova, Sampson, Zaslavsky, & Ries- Merikangas, 2012), meaning that everyone that receives a diagnosis of CD would have met the criteria for ODD at a previous stage (Loeber, Burke, Winter,& Zera, 2000; WHO 2002). If the individual meets the criteria for both diagnoses, the diagnosis of Conduct Disorder takes precedence over Oppositional Defiant Disorder (APA 2000; Earls & Mezzacappa 2002; Essau & Anastassiou-Hadjicharalambous, 2011). This thesis will use the term “behaviour problems” to encompass both CD and ODD.

1.5.3. Delinquency

Juvenile delinquency refers to offences conducted by a child or youth. The offences can include criminal activities and status offences, the latter are acts that violate the norm for the specific age group, for example running away from home, truancy from school etc. (Shoemaker 2009). A few delinquent activities are included as criteria of CD, but not all individual suffering from conduct disorders are necessary delinquent.

However, delinquents have been used to describe antisocial youth longer than the diagnosis of CD have existed (Shaw, McKay & Hayner, 1942), so the term is frequently used in earlier literature as well as the literature from criminology.

1.6. Background to the theory of behavioural problems in adolescents used in this thesis

The theories around behaviour problems in adolescents have evolved through the ever-increasing knowledge surrounding the topic. Biological and psychological theories were originally the most dominant frameworks for explaining behavioural problems with the discussion continuously shifting between the importance of nature and/or nurture (Dodge & Pettit, 2003). Then there was a change whereby psychoanalytic theory dominated behavioural problems research up to the 1960-70s. Then learning orientated theories with effective interventions and precise measurements of behaviour led the research. In recent years, developmental psychopathology has been proposed as the key perspective which combines biological, developmental, and psychological views on behavioural problems in adolescence (Jessor, 1987 & 1991). This framework has a central role for both risk and protective factors, and that research using this prospective is trying to clarify exactly how they operate, the relationship between them and any limitations with this approach (Dodge & Petit, Bates, & Valente, 1995; Frick, 1998; Loeber & Farrington, 2000; Raine, 2002a). These risk and protective factors are difficult to operationalise as there is a large number of them and they have complex interactions; earlier research has found different approaches to tackle this.

A common method to manage the number of risk factors involved in behavioural problems is the cumulative risk perspective whereby the number of risk factors present is more important than the type. This method forms a linear version of risk whereby the more factors are present, the higher the risk of developing more serious behavioural problems; increasing from no risk factors to six or more (Loeber & Farrington, 2000). However, more recent research highlights that it is not only the number of risk factors that matters but also the interaction of diverse types. For example, on its own impulsivity could be a moderate risk factor; however, in combination with other risk factors (e.g. inadequate socializing experiences, poverty), the risk increases (Lynam, 1998). Indeed, among many youths as the number of risk factors increase, the forms of behaviour problems also increase simultaneously, highlighting the need for an approach to target more than one factor.

The cumulative risk approach highlights the need for interventions which not only target one factor (e.g., parenting), but multiple factors. Therefore, a transdiagnostic approach is required that would target multiple risk factors and not just one (Brestan & Eyberg, 1998; Frick, 1998, 2001; Kazdin, 2009). The cumulative risk approach does not give the causal mechanism(s) whereby risk factors may make an adolescent more vulnerable to act in an aggressive and antisocial way. These factors may affect typical development (e.g., the ability to regulate emotions or delay gratification), however, identification could lead to supporting the child to improve these skills even if the risk factors that caused them are still present or due to different pathways to the behavioural problems (Dodge & Petit, 2003; Frick, 1998; Loeber & Farrington, 2000; Raine, 2002b).

All earlier researchers agree that the risk factors of behaviour problems are not easily identifiable but are instead a complex multifaceted interaction of several risk factors (Dodge & Petit, 2003; Frick, 1998; Loeber & Farrington, 2000; Raine, 2002b). There is a diversity of factors which have been associated with behaviour problems, including dispositional characteristics - within the child (e.g. biological abnormalities, maladaptive personality traits, cognitive deficits (Quay, 1993), and social environment including inadequate parenting, poor quality schools, peer rejection (Trentacosta & Shaw, 2009).Therefore, by focusing on any one risk factor, it is not possible to find the development of behavioural problems.

The developmental pathways to identifying the causal processes that lead to behaviour problems seems to be a very promising approach as stated in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text revision (DSM-IV-TR; APA, 2000), with the distinction between children who begin showing severe behavioural problems in childhood versus those whose onset of severe behavioural problems coincides with puberty. The child-onset group often show behavioural problems as early as nursery or primary school, increasing in rate and severity into adolescence (Atherton, Ferrer & Robins, 2018; Lahey & Loeber, 1994). In contrast, the adolescent-onset group begins showing significant behavioural problems at the onset of adolescence (Hinshaw, Lahey, & Hart, 1993; Moffitt, 1993). The different patterns of onset are in addition to the childhood-onset group's severity of symptoms whereby they show more aggressive behaviours in childhood/adolescence and this is more likely to continue to lead to antisocial and criminal behaviour into adulthood (DeLisi, Neppl, Lohman, Vaughn, & Shook, 2013; Hinshaw et al., 1993; Moffitt, 1993; Moffitt. Capsi, Rutter & Silva 2001).

The new edition of the diagnostic and statistical manual also identifies a distinct group of adolescents with high callous and unemotional traits, i.e., lacking empathy and guilt (DSM-5 - APA, 2000); this subgroup has been identified across settings: juvenile forensic facilities (Caputo, Frick, & Brodsky, 1999; Silverthorn, Frick, & Reynolds, 2001), outpatient mental health clinics (Christian, Frick, Hill, Tyler & Frazer, 1997; Frick, O'Brien, Wootton, & McBurnett, 1994), and school-based samples (Frick, Bodin, & Barry, 2000) . This subgroup with CU traits who also have behavioural problems seems to show a more severe and aggressive pattern of problems than other adolescents with behavioural problems alone (Christian et al., 1997; Frick, Cornell, Barry, Bodin, & Dane, 2003; Kruh, Frick, & Clements, 2004).

Therefore, adolescents with high CU traits and behaviour problems show a pattern of behaviour including more reactive (aggression in response to real or perceived provocation) and impulsive aggressive acts, as well as instrumental (aggression to gain a desired outcome) and premeditated aggressive acts overall, when compared to those with behavioural problems alone (Caputo et al., 1999; Frick, Cornell, Bodin, Dane, Barry, & Loney, 2003b; Kruh et al., 2004). Young people with both CU traits and behaviour problems also show a different temperament with a preference for the novel, exciting, and dangerous activities in both clinical (Frick, Lilienfeld, Ellis, Loney, & Silverthorn, 1999) and community (Frick, Cornell, Bodin et al., 2003) samples. Adolescents with CU traits and behavioural problems also exhibit less reactivity to threatening and emotionally distressing stimuli (Blair, 2005; Frick, Cornell, Bodin et al., 2003; Loney, Frick, Clements, Ellis, & Kerlin, 2003) and less sensitivity to punishment cues with a tendency toward a reward-oriented response (Barry, Frick, Grooms, McCoy, Ellis, & Loney 2000; Fisher & Blair, 2005; Frick,

Cornell, Bodin et al., 2003; O'Brien & Frick, 1996). This reward and punishment socialisation are believed to be an important part of the development of conscience and empathy. This is important as most individuals (i.e. parents) and establishments dealing with these adolescents (i.e. schools, etc.) naturally use a punishment-based approach for negative behaviour, making these young people less responsive and may therefore instead require an approach for incentivising more appropriate behaviours. The adolescents with this temperament are not necessarily on a fixed course to adult ASB as other factors are also involved in its development (Pardini, Lochman, & Frick, 2003).

Adolescents with behavioural problems without CU traits seem to show less aggression which is more reactive in nature to a real or perceived provocation (Frick, Cornell, Bodin et al., 2003b). Additionally, adolescents without CU traits but with behavioural problems seem to show problems with emotional regulation (Gross & Thompson, 2009), by exhibiting higher levels of emotional distress and more reactivity to the distress of others in social situations, as well as being highly reactive to negative emotional stimuli (Loney et al., 2003). These problems in emotional regulation can disrupt engagement with prosocial peers, lead to aggressive impulsive outbursts in response to emotionally charged situations with authority, peers and parents and impede the development of social cognitive skills, therefore pre-disposing the adolescent to more deviant peers and environments (Loney et al., 2003).

Thus, this research aimed to identify risk factors to tailor and pilot-test an intervention to evaluate its efficacy in reducing risk factors of behaviour problems with and without CU traits. The next section will outline the structure of the thesis.

1.7. Summary

As it has been outlined in this chapter, multiple factors have contributed to and influenced today's view of antisocial children. While Conduct Disorder itself is a relatively new disorder in our classification system, it has its origins in the treatment of delinquent children in the 19th century. Delinquency came about through the establishment of childhood and adolescence as developmental periods, and because of children roaming the streets. The invention of status offences increased the power to the authorities and made it possible to treat the children as they were criminals before they had committed any criminal offences. While biological determinism influenced early criminology, the combination of psychoanalytic theory, and recent research opened for a more balanced view on behaviour problems. Hence, by the end of 1920, most research and treatment considered both psychological and environmental factors. The treatment of the antisocial children in the justice and educational system was to a large degree a reflection of the current theories about their cause and with the introduction of the juvenile courts opened for the more humane treatment of child and youth. The historical perspective demonstrates that theoretical explanations are critical to not only explain the cause of conduct disorder, but also the treatment and interventions in the medical, educational and justice system.

1.8. Structure of the thesis

Chapter 1 has provided a general overview of the Thesis, which includes the context of the research and the research aims.

Chapter 2 is a research method section where a description of the assessment instruments, experimental designs and the intervention/prevention programme were described.

Chapter 3 (Study 1) uses a cross-sectional survey design to investigate the frequency and sociodemographic correlates of behavioural problems in community and clinical samples.

Chapter 4 (Study 2) compares the prevalence of adolescents with/without CU traits and behavioural problems, with a specific focus on both successful and unsuccessful psychopathy.

Chapter 5 (Study 3) uses a quasi-experimental design to compare executive function (i.e., impulsivity, cognitive shift, and attention) in a subsample of both community and clinical samples.

Chapter 6 (Study 4) focuses on the association between behavioural problems and mental health problems, as well as comparing the frequency of mental health problems among adolescents in community and clinical settings.

Chapter 7 (Study 5) examined the efficacy of a newly adapted transdiagnostic CBT-based intervention ('Super-skills for Life' programme) in reducing emotional and behavioural problems, and their correlates in a subsample of adolescents who

participated in Study 1. Participants were randomly assigned to either an intervention (SSL) or a wait-list control group. They completed a set of questionnaires and experimental tasks at pre-, post and 6-month follow-up.

Chapter 8 discusses and synthesises the findings of these five studies, the limitation of the thesis, the clinical and theoretical implications of the findings were also discussed.

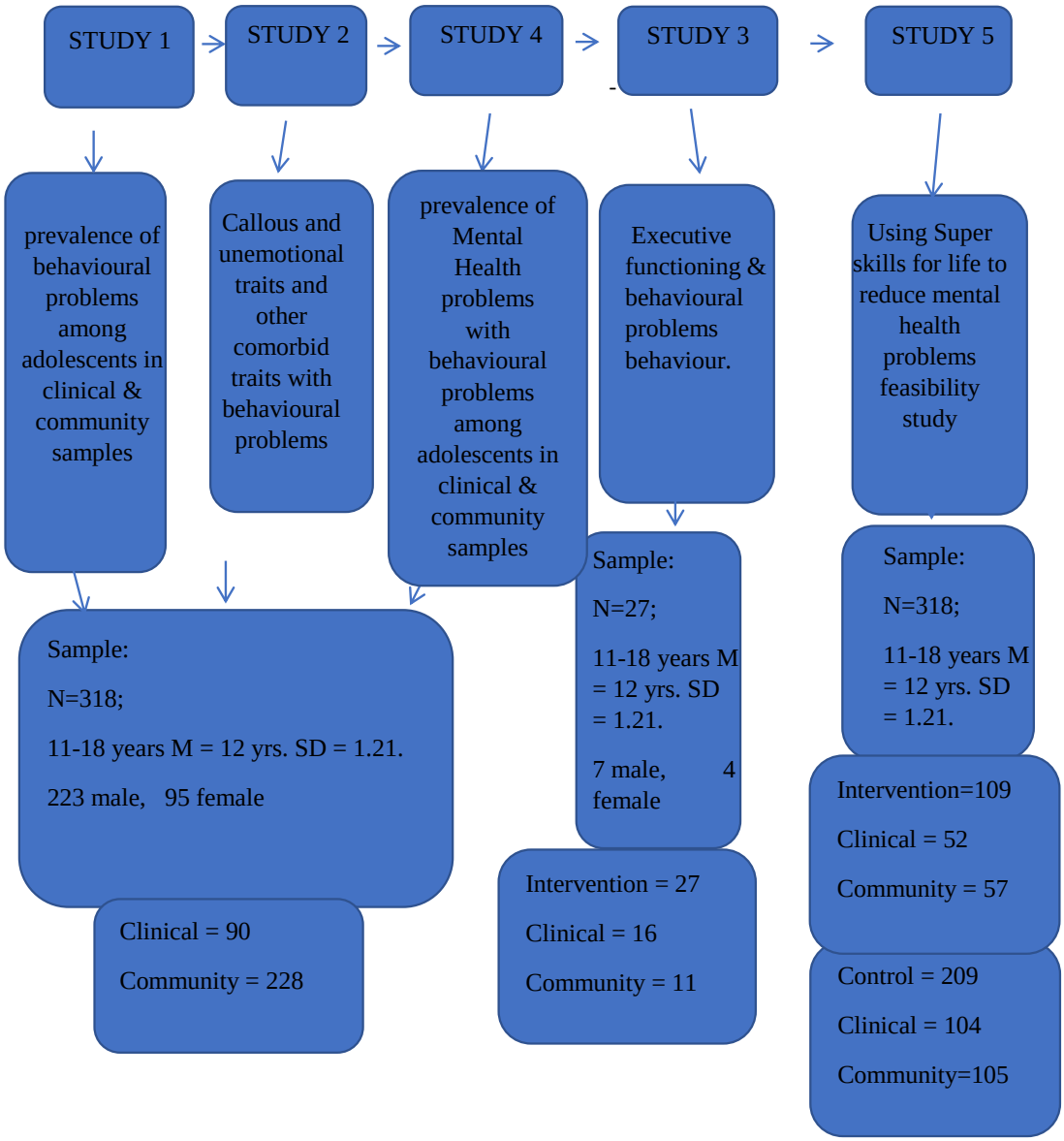

Figure 1.5 Overview of all five studies used in this thesis

METHODOLOGY

2.1. Overview

This chapter begins by summarising the method used, including the ethical application procedures, participants and instruments. Finally, an outline is provided of all the data collection procedures and data analyses.

2.2. Research Method of the Thesis

This thesis adopts a multi-approach, including a survey (quantitative), quasi-experiment (Scheuren,1980), and intervention research design (Stangor, 2004). Table 2:1 gives an overview of the research methods used in this thesis. Five studies were conducted in this thesis. Studies 1 and 2 used a survey method to examine the frequency of behaviour problems, their association with callous-unemotional traits, respectively. For these three studies, a set of questionnaires were used. Study 3 (chapter 5) used an experimental design to examine the role of executive functioning in behavioural problems. Study 4 (chapter 6) used a set of questionnaires to examine the association between mental health problems and behaviour problems. Study 5 was a psychological treatment evaluation study that investigated the efficacy of a transdiagnostic CBT-based intervention in reducing mental health problems.

Studies 1, 2 and 4, (chapters 3:4 & 6) used a survey design because of the large sample size and a wide range of factors which make it be the most practical approach. These three studies used a cross-sectional design to examine the associations between these variables of interest and the strength of these associations. In Study 3 (chapter 5), a subsample of the participants was invited to

take part in two experimental tasks. In Study 5, a subsample of adolescents participated in the treatment evaluation study, using pre-post and follow-up design.

Table 2:1 Descriptions of research methods used in this thesis

Study	Topic	Research method
Study 1 Chapter 3	Prevalence and sociodemographic correlates of behaviour problems	Survey
Study 2 Chapter 4	Behavioural problems and callous-unemotional traits	Survey
Study 3 Chapter 5	Behavioural problems and executive function	Quasi-Experimental
Study 4 Chapter 6	Behavioural problems and mental health	Survey
Study 5 Chapter 7	Efficacy of transdiagnostic CBT-based intervention on mental health problems	Treatment evaluation

2.3. Participants of research reported in the Thesis

Participants were a convenience sample of 318 (223 male and 95 female) high school students from South West London. Of these 318 adolescents, 90 were recruited from pupil referral units (referred to as "clinical sample") and 228 were recruited from mainstream high schools (referred to as "community sample"). The clinical sample were non-NHS data from participants whose school identified as having a diagnosed (or suspected) neurodevelopmental or mental health disorder such as ADHD or anxiety etc. The participants ranged in age from 11 to 18 years (M=12 years; SD= 1.21), and the sample was relatively diverse, as self-identified by

the participants (18% were White, 9.5% unreported, 42% Black or African, 8.5% Mixed race, 2% Asian, 1.3% Middle Eastern and 9.5 % declined to answer).

About 60.8% of the adolescents in the community setting, compared to 39.2% of adolescents who live with both parents in the clinical setting. Thus, a higher percentage of clinical samples lived in a single parent family. The percentage of adolescents in the clinical setting who were entitled to free school dinners were about double the percentage of those who live in the community setting.

All students for whom English was their native language were eligible to take part.

Studies 1, 2 and 4 (chapter 3;4 & 6) were based on the whole sample (N=318), see table below for further information on participants.

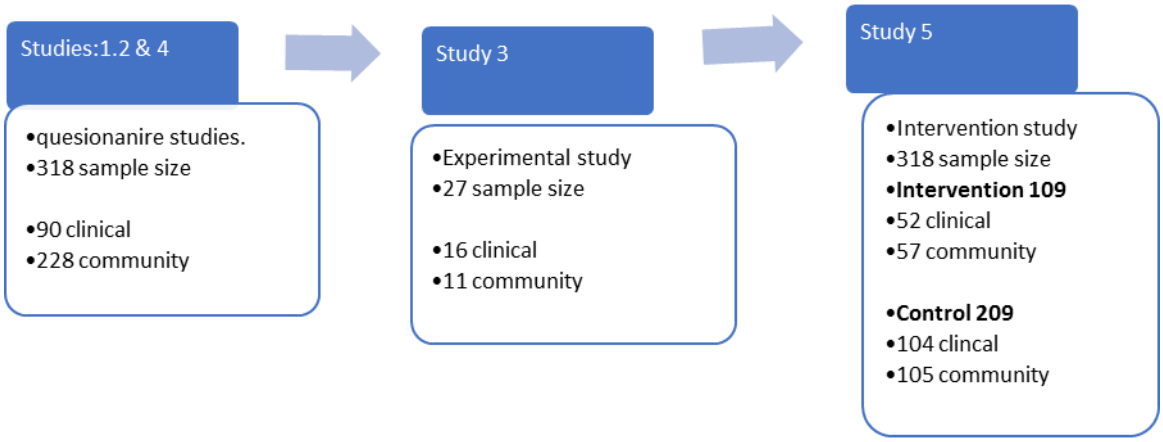

Figure 2:1 Overview of all five studies used in this thesis

Table 33 Demographics of adolescents in study 1,2 & 4 (N=318)

	Clinical sample *(N=90)* *N (%)*	***Community sample*** *(N=228)* *N (%)*
Gender		
- *Boys*	*68 (75.6%)*	*155 (68%)*
- *Girls*	*22 (22.4%)*	*73 (32%)*
Age (years)		
- *11- 12*	*52 57.8%)*	*138 (60.6%)*
- *13 – 14*	*38 (35.6%)*	*90 (39.4%)*
- *15 – 17*	*0 (0%)*	*6 (6.6%)*
Mean (SD)	*12.06 (.98)*	*12.68 (1.13)*
Ethnicity		
White	*34 (37.8%)*	*138 (60.6%)*
Black	*48 (53.3%)*	*90 (39.4%)*
Asian	*6 (6.7%)*	*6 (6.6%)*
Other	*2 (2.2%)*	*1.68 (1.13%)*
Sociodemographic		
Living with both parents		
Yes	*30 (33.3%)*	*138 (60.8%)*
No	*60 (66.7%)*	*89 (39.2%)*
Entitled to free school dinners		
Yes	*60 (66.7%)*	*73 (32.3%)*
No	*30 (33.3%)*	*155 (68%)*

In Study 3 and Study 5 the adolescents who gave the permission to be re-contacted and who expressed interested to participate in another study were invited to participate in these studies.

From these main participants, e-mail invitations were randomly sent to 50 participants from the clinical and community settings with instructions on how they could agree to take part in a follow-up session. Of these, 27 signed up and participated in the experimental tasks that were used to measure executive functioning (i.e., impulsivity, task shifting, attention). Similar to Study 3 (chapter 6), participants in Study 5 (chapter 7) who indicated their interest to participate in the intervention study and gave their contact details were contacted. From this group of adolescents, a total of 112 took part in the intervention study 5 (chapter 7) to evaluate the efficacy of the transdiagnostic CBT-based programme. These adolescents were randomly to either the intervention (N = 55) or a waitlist control group (N = 57).

2.4. Ethical Approval

Once permission was obtained from the University of Roehampton Ethics Board, mainstream high schools and pupil referral units and adolescent community organisations in South West London were approached to participate in this research via email. Initially at least 30 schools were contacted via letter of invitation to participate in the study. A small number expressed an initial interest however they were put off by some of the measures used and specific questions within them. For example, one school agreed but, on the start, date pulled put die to the questions about whether children had thought about suicide. Despite discussion and assurance

that those questions could be removed they felt that after a recent suicide of a young person from a nearby area they thought that they were worried about possible adverse effects and repercussions from parents and children involved. They therefore refused to participate on the day. Other schools were put off by the fact that we were measuring psychopathic traits in children, despite lots of re-assurance that results would not be shared or known and the rationale for doing this being shared.

Additionally, schools seem remarkably busy and some said they would like to participate bit had no way of fitting it to their current curriculum. Another issue was that some of the students were either taking or close to taking their GCSE exams and so were not included, the schools were worried about the effect on their academic performance of missing an hour a week for eight weeks.

If an organisation had agreed to take part and the gatekeeper (e.g. Head of the organisation) signed an institutional consent form, a date was agreed for the study to take place in their respective schools.

The participating organisation then sent an opt-out consent form for the participants, to their parents via their online communication programme or through an email. Only adolescents who had given the researcher (SA), an opt-out consent form signed by their parents preceding completion of the questionnaires were excluded from participation. All other young people were believed as having given consent to participate in this study.

The questionnaires and the experimental tasks that the adolescents completed have words and phrases/sentences that are comparable with those that participants would meet as part of their normal school curriculum. All the materials used in the study

(i.e. the questionnaires and detailed descriptions of the experimental tasks that the adolescents would undertake) were left in the participating schools'/gatekeepers office to give parents the opportunity to look over the materials if they wished to do so before their children took part in the study. It was clearly explained to parents in the opt-out consent letter that they were needed to return it only if they did not want their child to take part. Once a specified time had elapsed allowing parents/guardians to express their desire to 'opt out' (a recommended period of one educational week – Monday to Monday), the children who agreed to participate in the study completed a set of questionnaires.

The Intervention programme (Study 5, chapter 7) was delivered by the researcher and another graduate student, who were both checked and cleared before starting this programme by the Disclosure and Barring Service (DBW; previously Criminal Records Bureau, CRB). Both facilitators received training by the senior author of SSL-A (Essau) and were equipped with the Facilitator's manual to guide them and ensure consistency in each session (Essau et al., 2014). Both group facilitators agreed to adhere to these instructions that were clearly outlined in the Trainer's Manual (Essau et al., 2014). The group facilitators also discussed each session recording if a child was present; their level of engagement; if the home activity was completed and any other relevant feedback on each session.

The intervention opt-out consent forms informed parents/participants that the purpose of the study was to further our understanding of the nature of behavioural problems and how it can affect their cognition, emotional state, and their social skills. Parents were informed that their adolescents would be taught specific skills

that they could use to better cope with challenging situations, both now and in the future if the results of this study showed significance. After the opt-out consent process was completed and before the beginning of the group intervention, all adolescents had taken part in a first session to complete a set of baseline self-report questionnaires, within the typical class time the main investigator and teacher were present. These questionnaires also asked for demographic information such as age and gender.

All adolescents (community & clinical) were told that they were randomly given to either the waitlist or intervention group. All adolescents were told that the waitlist group would also receive the intervention later, to avoid any feeling of exclusion or stigmatisation.

Regardless of their group allocations, all the adolescents completed a set of questionnaires at T1. Adolescents were asked to sit in their usual seats and listen carefully to the instructions and that there were no right or wrong answers but to just answer with what they think. The main investigator who has an MSc and BSc Psychology graduate was also available when the participants completed the questionnaires in case any adolescents who had any questions or needed clarification on any of the questions. Adolescents were also informed that all questionnaire responses were confidential. All questionnaires were completed within the same week, to ensure the accuracy of the adolescent's levels prior to the training commencement.

Following the pre-treatment assessment (T1), adolescents given to the experimental group engaged in the eight-week Programme. At the end of the programme,

adolescents were asked to complete the post-treatment assessments (T2). The post-programme measures consisted of the same questionnaires that they completed at T1 to assess the efficacy of the training programme. Identical to the pre- and post-programme assessment, the adolescents completed their questionnaires six months after the intervention, within school hours, in the school administered by the main investigator of this study. Adolescents assigned to the CG were assessed over the same interval as the adolescents in the intervention group. On completion of the programme, adolescents were provided with a certificate of participation.

2.4.1. Debriefing

At the end of the Intervention study, participants were debriefed verbally and in writing with a debrief from that discussed the nature of the study. It was also reiterated that all information obtained during the study would remain confidential. If the participants had any further concerns about the study, they were told to contact the principal investigator, the Director of Studies, and/or the Head of the Psychology Department (see appendices VII and VIII).

2.5. Materials and Instruments Used in Study 1, Study 2, 4 & Study 5 (chapter 3; 4 ; 6 & 7)

2.5.1. **The Youth Inventory of Callous-Unemotional Traits**.

(ICU Youth Version Frick, 2004; Appendix 7)

This was used to assess callous-unemotional traits in youth. The ICU captures three dimensions of CU traits (Essau, Sasagawa, & Frick, 2006b) callousness (e.g. "The feelings of others are unimportant to me," "I do not care who I hurt to get what I want"), unemotional (e.g. "I do not show my emotions to others," "I hide my feelings from others"), and uncaring (e.g. reverse scored items: "I feel bad or guilty when I do something wrong," "I do things to make others feel good"). In the 24-item self-report questionnaire answers were recorded on a four-point Likert scale ranging from 0 (not at all true) to 3 (definitely true). Twelve positively worded items required reverse scoring before calculation of the subscale scores.

The total score and subscales of the ICU have shown adequate internal consistency and reliability estimates in samples using a wide variety of youth (Forth, Kosson & Hare, 2003; Skeem & Cauffman,2003). Significant associations were found with measures of aggression, delinquency, empathy, positive affect, internalising and externalising behaviours, and conduct problems (Essau, Sasagawa, & Frick, 2006b; Kimonis, Frick, Cauffman, Goldweber, & Skeem 2012; Lawing, Frick, & Cruise, 2010). In the current sample, the internal consistency of the subscale and the Cronbach alpha of the scale in the present study was .61 (Cronbach, 1957). For more detailed information on CU traits see chapter 4 (page 96).

2.5.2. The brief self-control scale (BSCS); (Tangney, Baumeister, & Boone., 2004; Appendix 12)

This was used to measure dispositional self-regulatory behaviours. It consists of 13 items which can be rated on a 5-point scale, ranging from 1 (“not at all like me”) to 5 (“very much like me”). The items were added, with a higher overall score being indicative of self-controlled behaviours (Maloney, Grawitch & Barber, 2012). Example items: ‘‘People would say that I have iron self-discipline’’ and ‘‘I often act without thinking through all the alternatives”. The scale has two distinct factors: impulsivity and restraint. Impulsivity consists of five items that are related to acting on spontaneous thoughts and feelings, while restraint subscale consists of four items which are related to self-discipline and resisting temptation. The remaining four items were neither restraint nor impulsivity, thus, it is given a labelled “other”. In the current sample, the internal consistency of the scale was good; the Cronbach alpha was .74. For more detailed information on BSC see chapter 3, section 3.4.4 (page 65).

2.5.3. The Social and Health Assessment (SAHA; Ruchkin, Schwab-Stone, & Vermeiren, 2004; Appendix 3)

This assessment has 19 items and it was used to measure adolescents’ involvement in a wide range of antisocial behaviours (e.g. gun and knife crime) and related risk of being involved in antisocial behaviour (e.g. deviant peers, drug, and alcohol use). The SAHA is one of the most widely used self-report questionnaires to measure

antisocial behaviour in large scale studies in several countries, including in USA Russia and Belgium (Vermeiren, Schwab-Stone, Deboutte, Leckman, & Ruchkin, 2003).

Two of the SAHA subscales were used to assess various aspects of antisocial behaviour. The first subscale was used to measure involvement in serious aggressive and antisocial behaviours (e.g. "been involved in gang fights, or hurting someone badly in a fight, or I carried a gun,"). Adolescents reported on the frequency of these acts, using a 5-point scale, asking them to rate during the past year how many had occurred, ranging from "0 times" to "5 or more times". The second subscale was used to measure knowledge about gangs in the neighbourhood and membership in a gang. Respondents had the following options ("yes"; "no "or "I don't know"). A problem behaviour score was obtained by summing the 19 items: the higher the score, the more behaviour problems.

The internal consistency of the scale has been reported to be high (Vermeiren et al., 2003). In the current sample, the internal consistency of the subscale was good; the Cronbach alpha was .74. For more detailed information on behaviour problems see chapter 3.

2.5.4. The Drug Use questionnaire (Appendix 4)

This questionnaire was used to examine participants' alcohol and drug use. They were asked to answer a total of two questions about their consumption of four types of drugs (i.e., alcohol; drug; tobacco or other) they may have used. Items were

scored for each question with yes which was scored as 1, and no scored as 0. The higher the score the more drugs used. For more detailed information see chapter 5.

2.5.5. The Toronto Empathy Questionnaire (TEQ; Spreng, McKinnon, Mar, & Levine, 2011, Appendix 9)

This scale contained 16 questions that measure a wide variety of empathy-related behaviours associated with the theoretical facets of empathy, namely (a) perception of an emotional state in another that mirrors the same emotion in themselves; (b) emotion comprehension in others; (c) emotional states in others through appropriate sensitivity; (d) sympathetic physiological arousals and altruism. Items were scored on a 5-point scale, ranging from "Never = 0"; to "Always = 4". Scores were summed to derive a total TEQ, with higher overall scores showing higher empathy. In the current sample, the Cronbach alpha of the TEQ was .52. For more detailed information on TEQ see chapter 3, section 3.4.5 (page 65).

2.5.6. The Youth Self Report (YSR; Achenbach, 1991; Appendix 5)

This questionnaire was used to measure emotional and behavioural problems. Its 120 problem items can be scored on a 3-point scale, ranging from "0=not true" to "2=very or often true", apart from question 56h which an open-ended item was (i.e.

Physical problems without known any medical cause: Other). The participants decide for themselves how true each item is now or was within the past six months.

The YSR was scored on the scale of the total problems, which was the sum of the scores of each problem item. The problem items were combined to form eight syndrome scales, which were further divided into two broadband scales, namely Internalising and Externalising scales. Internalising problems were considered as emotional disturbances and are made up of the following subscales: Withdrawn (e.g. “I would rather be alone than with others”), Somatic Complaints (e.g. “I feel dizzy or lightheaded”) and Anxious/ Depressed (e.g. “I feel lonely”).

The Externalising problems reflect conduct disorders or behavioural excess and were made up of Delinquent Behaviour (e.g. “I don’t feel guilty after doing something I shouldn't”) and Aggressive Behaviour (e.g. “I am mean to others”) scales. Other scales that were assessed were Social Problems (e.g. “I act too young for my age”), Thought Problems (e.g. “I can’t take my mind off certain thoughts”), Attention Problems (e.g. “I have trouble concentrating or paying attention”), and Other Problems (e.g. “I don't eat as well as I should”).

The YSR has good reliability in the original English version (Achenbach, 1991) and it has been replicated in American, German and Dutch studies of children and adolescents in clinical and epidemiological settings (Ebesutani, Bernstein, Martinez, Chorpita, & Weisz, 2011; Steinhausen, et al, 1998; Van Lang, Ferdinand, Oldehinkel, Ormel, & Verhulst, 2005). In the current sample, the internal consistency of the YSR was excellent, with Cronbach alpha being .94. For more detailed information on behaviour problems see chapter 6.

2.5.7. The Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965; Appendix 8).

This scale was used to measure self-esteem. It has 10 items which were coded on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). Items were summed, with higher scores showing greater self-esteem. The RSES (Rosenberg, 1965) has been translated into 28 different languages, with internal consistency reliability estimates ranging from .82 to .89 (Baker & Gallant, 1984; Blascovich & Tomaka, 1991). In the current sample, the Cronbach alpha of the scale was .52. For more detailed information on BSC see chapter 3, section 3.4.6 (page 66).

2.5.8. Demographics Scale (Appendix 14)

The Demographic Scale was used to measure the participant's sociodemographic features such as age, gender, religious affiliation, and ethnicity as well as living arrangement (i.e., whether the participants lived with either or both of their parents).

No data were available of the type of parental employment, and hence, a proxy for socio-economic status (SES) was used instead of the Hollingshead-Redlich Factor. It consisted of a composite index (range 0–6) including single-parent family status (divorced, separated, or widowed), employment for each parent separately, highest education for each parent separately, number of times the family had moved during the study period (with 3 or more times being a risk factor), and child's free lunch status in school (Were you entitled to free or help with cost of lunches?). The adolescents responded to these items by checking "yes" (coded 1) or "no" (coded 0).

The items used in this demographic questionnaire were based on examining surveys from the National Opinion Research Centre General Social Survey (GSS) for examples of how to ask for demographic information (http://webapp.icpsr.umich.edu/GSS/).

2.5.9. Youth Inventory-4. (Appendix 13)

The adapted Youth Inventory-4 (YI-4; Appendix 13) was used to measure symptoms of conduct disorder. In the present study, this scale was revised to include the symptoms in major mental disorders according to the criteria of DSM-5 (Diagnostic and Statistical Manual of Mental Disorders, fifth Edition– DSM-5; APA, 2013). For the present study, only the conduct disorder scale was used. The items can be rated on a 4-point scale ranging from "never = 0" to "very often=3".

The YI-4 can be analysed in two ways, namely through 'Symptom Count' and "Symptom Severity," in this study both methods were used. The 'Symptom Count' is the total number of symptoms rated as a concern for a specific disorder, i.e. as occurring "often" or "very often", while the Symptom Severity score is a minimum number of symptoms necessary for a DSM-IV diagnosis. If the Symptom Count score is equal to/greater than the Symptom Criterion score a Symptom Cut-off score for that category is given to the young person. For the Symptom Severity scoring method, items are scored on a 4-Likert scale, ranging from "0 = never" to "3 =very often". The score for each item is summed to generate a Symptom Severity score for each symptom category. Item Bx is related to how often the behaviour affects functioning ("How often do the behaviours above make it harder to do schoolwork, get along with others, or work on a job?"). The present study used a symptom

severity scale. In the present study, the Cronbach alpha of the YI-4 was .82. For more detailed information on behaviour problems see chapter 3.

2.5.10. Impulsive/Premeditated Aggression Scale; (IPAS, Stanford, Houston, & Baldridge, 2008; Appendix 10)

This was used to rate impulsive and premeditated aggressive acts that occurred over the past six months. It consists of 30 items which could be scored on a five-point scale, ranging from "1 = Strongly Disagree" to "5 = Strongly Agree". Two examples of items are "I planned when and where my anger was expressed" and "I felt my outbursts were justified". The IPAS has been confirmed for adolescents and its reliability estimates ranged from .72 to .82 (Kockler, Stanford, Nelson, Meloy, & Sanford, 2006; Stanford et al., 2008). The Cronbach alpha of the scale in the present study was .93. For more detailed information on IPAS see chapter 3, section 3.4.7 (page 67).

2.5.11. Hostile Attribution Bias Regarding Relational Provocation (Crick Grotpeter, & Bigbee, 2002; Appendix 6)

This was used to measure adolescents' misinterpretations of social cues as hostile (i.e., hostile attribution biases) or not hostile. Participants received 8 hypothetical-situation vignettes of ambiguous peer interactions. The adolescents were asked to imagine that they were participating in the interaction, which involved A few negative actions by peers. In each vignette, the provocateur's intent remained

ambiguous, so that the participant had to decide if the intent of the provocateur was either benign/accidental or hostile/intentionally harmful. Of the eight vignettes, four vignettes included Ambiguous Minor Harm /instrumental provocation situations (e.g. 'Brian /Jessica has thrown the ball the ball and hit you in the middle of your back') and four vignettes involved "Unsuccessful Peer Entry relational provocation" situations (e.g. 'The other young people in the hall start laughing.').

Items were scored for each story. The participant indicated a reason for the provocation with two options: one indicated hostile intent which was scored as 1, and the other indicated benign intent scored as 0. The higher the score the higher the HAB bias. A series of studies by Crick and colleagues (Crick 1995, Crick & Dodge, 1994 & Crick et al., 2002)) reported Cronbach alphas with a range of .77–.86 for instrumental provocation and .65–.78 for relational provocation. The Cronbach alpha in the present study was .73 for instrumental provocation and .65 for relational provocation. For more detailed information on HAB see chapter 3, section 3.4.1 (page 63).

2.5.12. The Inventory of Peer Attachment (IPPA; Armsden & Greenberg, 1987; Appendix 11)

The Peer subscale of the IPPA was used to assess attachment to peers. It has 25 items which can be rated on a 5-point Likert scale, ranging from 1 (almost never or never true) to 5 (almost always or always true). Eight items were reversed coded. Its 25 items can be divided into three subscales: Peer Trust, Peer Communication, and Peer Alienation. The IPA has been found to be associated with positiveness and elevated level of self-esteem, and life satisfaction (Laible, Carlo, & Raffaelli, 2000).

The IPA has shown good reliability and validity in earlier studies, with Cronbach alpha ranging from .72 to .91 (Armsden & Greenberg, 1987; Laible, Carlo, & Raffaelli, 2000; Essau, 2004, 2010). In the current sample, the Cronbach alpha of the IPA was .87. For more detailed information on the relevance of peer relationships see chapter 6.

2.6. Experimental tasks (Study 3 – chapter 5)

Executive functioning was measured using computerised tasks which were completed online using the millisecond platform software (Inquisit, 2014): 'Balloon analogue task' and 'Child IAT'.

2.6.1. The balloon analogue risk task, youth version (BART–Y; Lejuez, Aklin, Daughters & Zvolensky, 2007)

The BART-Y was used to measure risky decision (Fukunaga, Brown & Bogg, 2012; Hunt, Hopko, Bare, Lejuez, & Robinson,2005). Participants were needed to inflate a computer-generated balloon to earn reward points. With each pump, participants score added points in the reward meter until they stop pumping and get the points. The balloon will pop if pumped past its explosion point; following the first explosion the amount to be lost is increased with every successive pump. The typical distribution of the explosion points is around 64 pumps and contains 30 explosion points for each trial (Lejuez et al., 2007; Lejuez, Read, Kahler, Richards, Ramsey, Stuart, Strong, & Brown., 2002). The explosion point varied across the 30 trials. Participants were made aware that they would have to determine how much they would need to pump the balloon to obtain points, as there could be enough pumps

for the balloon to fill the entire screen. During the task, participants can view the reward meter positioned on the right side of the computer screen which shows the score based on balloons that were not exploded. The reward metre was a simple metre showing a bar for low, middle, high and bonus score. The dependent variable of the task is the average number of pumps for balloons that did not explode.

Earlier studies have shown that the BART-Y was positively associated with risky behaviours and substance abuse (Lejuez et al., 2005; Hopko, Lejuez, Daughters, Aklin, Osborne, Simmons, & Strong, 2006). The BART-Y has also been linked with psychopathy and impulsivity, whereby psychopathy has a few non-shared tendencies toward irresponsible and criminal risk-taking beyond that associated with other externalising disorders (Hunt et al, 2005).For more details on impulsivity please see chapter 5.

2.6.1. Child implicit associations task (IAT) task (Greenwald, McGhee& Schwartz, 1998; Greenwald, Nosek, & Banaj, 2003 & 2005; Greenwald, Poehlman, Uhlmann, & Banaj,2009)

This was used to measure cognitive flexibility. The task involved looking at the errors and the time spent to respond when a task is changed. The implicit association task (IAT), procedure involves a series of seven tasks (Nosek, Greenwald & Banaji, 2005). If the participants have good cognitive flexibility, they should be able to override the pairing, reflecting the stronger association (Rothermund & Wentura, 2004). If, however, they have poor cognitive flexibility they were expected to show more errors when the attribute pairing is switched. In the Pleasant – flower or happy

face with the word yucky/Unpleasant – insect or sad face with word nice example, a participant will be able to categorise less quickly than when the more matched attributes are together, i.e., Pleasant – flower or happy face with the word nice. For more details on cognitive flexibility please see chapter 5 – cognitive shift.

2.7. Data Analysis of the Thesis

Data from the self-report questionnaires was analysed using SPSS, Version 25.0 (SPSS, Chicago, IL). Several parametric and non-parametric tests (such as Multivariate Analysis of Variance (MANOVA), and Mann-Whitney tests and Regression analysis were conducted to address the aims of each study.

PREVALENCE OF BEHAVIOURAL PROBLEMS AMONG ADOLESCENTS IN CLINICAL AND COMMUNITY SAMPLES (STUDY 1)

3.1. Overview

The main aim of Study 1 (chapter 3) was to compare the prevalence and correlates of behavioural problems among adolescents, in clinical and community settings. These sociodemographic correlates included gender, age, religious affiliations, mother, and father works, mother and father's education, number of times family moved in the last year, and entitled to free lunches. The other correlates that were covered in this study included: self-esteem, impulsivity, empathy, self-control, hostile bias, and peer attachment. The rest of the correlates were covered in Study 2 – chapter 4 (i.e., CU traits) and in Study 3 – chapter 5 (i.e., executive functioning).

3.2. Epidemiology of behavioural problems

Previous studies with children and adolescents have reported the prevalence of behavioural problems to range (see table 3:1) from 3.3% and 10% in the general population (Maughan, Rowe, Messer, Goodman, Meltzer, 2004; Rescorla, Achenbach, Ivanova, Dumenci, Almqvist, Bilenberg, Bird, Chen, Dobrean, Döpfner, Erol, Fombonne, Fonseca, Frigerio, Grietens, Hannesdottir, Kanbayashi, Lambert, Larsson, Leung, Liu, Minaei, Mulatu, Novik, Oh, Roussos, Sawyer, Simsek, Steinhausen, Weintraub, Weisz, Winkler, Wolanczyk, Yang, Zilber, Zukauskiene, &

Verhulst, 2007), and as varied as 3.8 and 85% in the clinical settings (Biederman, Petty, Dolan, Hughes, Mick, Monuteaux, & Faraone 2008; Burke, Loeber, Lahey, & Rathouz ; Burke, Rowe, & Boylan 2014; Johnson, Kemp, Heard, Lennings, & Hickie, 2015).

Reasons for these variances in prevalence rates could be due to differences in the assessment methods for measuring behavioural problems. Assessment methods are related to the classification systems (e.g. categorical approach such as ICD and DSM and their various revisions [ICD-9, ICD-10 or DSM-IV, DSM-IV-R; DSM-5]), as well as the dimensional approach that used YSR, SAHA, and YI-4.

Differences in prevalence rates may also be related to the informants used to collect the data (e.g. self-report, teacher, and parent report), as well as settings (e.g. community or clinical). Studies that focused on antisocial behaviour and externalising disorder as measured using the SAHA and YSR, respectively, have shown distinct variations in the prevalence of behaviour problems when comparing both measures (Table 3:1). Additionally, in Table.3:1 the country of origin of these studies is shown, which could highlight differences in for example ethnicity and age range. Interestingly even when comparing the same measure and same age range across countries differences are still clear.

Table 3:1 Prevalence of externalising disorder based on YSR/YSR-4 and SAHA

Study	*Country*	*Instrument*	*Number of participants*	*Age range*	*Prevalence %*
Ebustani et al, (2011)	*Hawaii*	*YSR*	*331*	*7-14*	*21.14*
Hofstra et al, (2014)	*USA*	*YSR*	*2,600*	*11-18*	*1.54*
Kauss et al, (2011)	*Dutch*	*YSR*	*5,512*	*14-15*	*13.2*
Fonesca-Pedrero, et al, (2012)	*Spain*	*YSR*	*4,868*	*11-18*	*8.41*
Essau et al, (2014)	*Germany*	*SAHA*	*1,219*	*10-14*	*43.6*
Frey, Ruchkin, Martin, & Schwab-Stone (2009)	*USA*	*SAHA*	*652*	*13-14*	*27.2-41.8*
Sobotkova et al, (2012)	*Czech*	*SAHA*	*955*	*12,14*	*47.7-56.1*
Van Domburgh, Doreleijers, Geluk, & Vermeiren, (2011)	*Belguim*	*SAHA*	*1,026*	*12-16*	*8.6-22.4*
Vermeiren, Deboutte, Ruchkin, Schwab-Stone, (2002)	*Russia*	*SAHA*	*3,091*	*14-17*	*32.9-41.5*

Studies that focused on antisocial and aggressive behaviour measured using the SAHA and YSR have shown distinct variations in the prevalence of behaviour problems when comparing both measures (Table 3:1). Additionally, in Table 3.3 the country of origin of these studies is shown, which could highlight differences in for example ethnicity and age range. Interestingly even when comparing the same measure and same age range across countries differences are still clear.

3.3. Correlates and risk factors (Age and gender)

3.3.1. Age and Gender

The prevalence of behaviour problems has been reported to differ by age. According to numerous studies (Biederman et al., 2008; Burke et al., 2014; Johnson et al., 2015), an overall prevalence of behavioural problems in 5-16-year olds is 6.1% in both the community and clinical samples. The prevalence of behavioural problems tends to increase throughout childhood with a peak at age 15. With increasing age, symptoms shift from impairment and disruption of family and school life to societal infractions and encounter with the legal system (Frick & Morris, 2004).

The prevalence of behavioural problems also differs by gender, with a higher percentage of behavioural problems found in males (3.3% - 10%) than females (.8% - 7.1%) in both clinical and community settings (Blair, Leibenluft, & Pine, 2014). For boys, rates of behavioural problems show a steady linear increase with age, from the extremely low levels observed in early childhood, through to higher rates in

middle childhood. For girls, the age-profile seems to vary slightly, with low rates in early and middle childhood. Moffitt et al (2001) and proposed that by mid-adolescence (14-17 years), most gender differences in the prevalence of behavioural problems have converged.

3.4. Correlates and risk factors (other)

3.4.1. Information processing & social cognition linked to Hostile attribution bias. (Dodge, 1993)

The information-processing model is a widely used model to explore the origin of behaviour problems such as aggressive behaviours within social interactions (Dodge, 1980 & 1993). The model hypothesises that children who are prone to aggression focus on threatening aspects of others' actions, interpret hostile intent in the neutral actions of others (Vitale, Newman, Serin, & Bolt, 2005) and are more likely to select and to favour an aggressive solution to social challenges. According to Dodge (1993), aggressive children tend to encode hostile aspects of a situation, then attribute hostile intent to ambiguous social cues and then access and favour aggressive responses to social challenges. It was further hypothesised that one reason for these errors of social cognition could be because of repeated exposure to physical maltreatment (Dodge et al., 1995).

In a prospective study by Dodge et al (1995), physical abuse documented in kindergarten was strongly associated with conduct problems; 28% of the abused group developed conduct problems compared with 6% of the non-abused. Therefore, encoding errors, hostile attributions, and biases toward accessing and favouring aggressive responses were each associated with both a conduct problem outcome and

previously experiencing physical abuse. Encoding errors and accessing aggressive responses seems to mediate the link between physical abuse and conduct problems, however hostile attributions and positive evaluation of aggressive responses did not. This prospective study (Dodge et al, 1995) clearly highlights the importance of hostile attribution bias in behavioural problems.

3.4.2. Impulsivity

Impulsivity is an element of executive function that has been reported to be linked to behavioural problems (Bechtold, Cavanagh, Shulman & Cauffman, 2013). Impulsivity is described as to act and behave in a spontaneously, in a way that has no consideration of the consequences, forethought and reflection. These types of actions are risky; inappropriate in the situation they are expressed and in a premature manner, often leading to unwanted consequences which hinder the success of achieving long term goals over short term gains (Farrington, 1989. 1995; Taylor, Chadwick, Heptinstall, & Danckaerts, 1996). Therefore, impulsivity is made up of two constructs: acting without the correct amount of deliberation which could or not be functional and choosing short term goals over long term ones (Farrington, 1995; Taylor et al, 1996).

As reported in previous research, problem behaviour was found to highly overlap with impulsivity problems; furthermore, delinquency was significantly predicted by inattention (Waschbusch,2002), hyperactivity, and impulsivity at aged eight, even when controlling for conduct problems (Farrington, 1995; Taylor et al,1996). Other studies have found impulsivity to be associated with several types of violence. Among offenders, those with low trait impulsivity were more prone to instrumental

violence, whereas those with high trait impulsivity were more prone to reactive violence (Dolan & Fullam, 2004).

3.4.3. Impulse Control

Low impulse control is a well-researched risk factor for various types of externalising behavior, including delinquency and substance use. Impulse control is the tendency to resist temptations or urges and suppress potentially harmful behavior (Weinberger and Schwarts 1990). Research consistently finds a negative relation between impulse control and delinquency (Bechtold et al. 2013) and substance use (White et al. 1987). Low impulse control has also been found to be associated with a particularly severe pattern of antisocial behavior, including the earlier onset of delinquency (Carroll et al. 2006; Sibley et al. 2013), higher rates of sexually aggressive behavior (Yeater et al. 2012), and more violent forms of delinquency (DeLisi et al. 2013; Sibley et al.2011).

3.4.4. Dispositional self-regulatory behaviours (BSC)

Self-control of impulsivity is known as self-regulatory behaviours, this is the operate phase; maintaining behaviours in response to environmental demands by controlling impulses to deliberative action (Carver, 2005; Carver & Scheier, 1982). The capacity for self-control has individual differences that gives us a deeper understanding of how people interact with their environment (Carver, 2005). Measuring self-control correctly relies on the correct operationalisation of self-control by differentiating it from other aspects of the self-regulatory process such as standards and self-monitoring (Baumeister & Heatherton, 1996).

Tangney et al., (2004) developed the 36-item Self-Control Scale (SCS) and 13-item Brief Self-Control Scale (BSCS), reliability and construct validity of the BSCS has been confirmed in various studies(Carver, Sinclair, & Johnson, 2010; Gailliot, Schmeichel, & Baumeister, 2006; Schmeichel & Sell, 2007).

Impulsivity is also associated with early onset of serious antisocial behaviour (Roose et al., 2011, Frick et al., 2000; Hipwell et al., 2007, van Baardewijk, Stegge, Bushman, & Vermeiren, 2009, Poythress et al., 2006).

3.4.5. Empathy (TEQ)

Empathy is operationalised into two interrelated but distinct dimensions cognitive; to imagine, appreciate, and identify with another's emotional state and understand them and affective ; experience an emotional response to another's emotional state and feel it (Cox et al., 2012; Davis, 1983; Duan & Hill, 1996; Levenson & Ruef, 1992). Previous studies have found different brain regions implicated for each dimension of empathy, meaning that you can understand another's emotional state (cognitive empathy) and not have an emotional response to another's emotional state (affective empathy) and vicer versa (Shamay-Tsoory, Aharon-Peretz, & Perry, 2009). Effective empathy is believed to emerge in the early years of life and cognitive empathy continues to develop throughput childhood and into adolescence (Decety, 2011; Hoffman, 1987). Empathy is important for prosocial behaviours; developing social competence; maintaining adolescence relationships (Barnett & Thompson, 1985; Eisenberg & Miller, 1987) and also weaken aggressive tendencies with a lack of empathy contributing to antisocial behaviour. Therefore, by understanding empathy development and its processes may lead to better informed interventions targeting reduction of aggressive and antisocial behaviors, especially

for youths with CU traits (Feshbach & Feshbach, 1982; Miller & Eisenberg, 1988). Clearly further research is needed to look at the association between empathy, CU traits and specifically behavioural problems.

3.4.6. Self-Esteem (RSES)

Self-esteem refers to an individual's sense of his or her value or worth, or the extent to which a person values, approves of, appreciates, prizes, or likes him or herself (Blascovich & Tomaka, 1991). Research has shown that self-esteem has a strong relationship to happiness and low self-esteem is more likely than high to lead to depression under some circumstances. However high self-esteem makes it more likely for adolescents to experiment with smoking, drinking, taking drugs, or engaging in early sex and so is not necessarily a protective factor. Furthermore, adolescents with high self-esteem show stronger in-group favouritism when compared to those with low self-esteem. High self-esteem may also indicate people who exaggerate their successes and good traits similar to narcissistic, defensive, and conceited individuals. If high self-esteem is not gained from praise for prosocial behaviour or self-improvement it could lead to promote narcissism. Adolescents with high self-esteem and high CU traits may be prone to manipulating peers with low self-esteem. Previous research has shown the relationship between narcissism, and conduct problems was moderated by self-esteem, high levels of narcissism and low self-esteem show the highest rates of CD and aggressive behaviour, however neither high nor low self-esteem is a direct cause of violence.

3.4.7. Impulsive/Premeditated Aggression (IPAS)

Aggressive behavior among adolescents with Conduct Disorder, is the symptoms that has the strongest prognostic and treatment implications. Aggression is a complex construct; research supports two subtypes impulsive and premeditated that are different from each other by phenomenology and neurobiology. Both adult and child research show that the two types of aggression are useful to identify individual differences among adolescents with Conduct Disorder (American Psychiatric Association, 2000). Individuals classified as expressing either impulsive or premeditated aggressive behaviors differ from one another across a variety of domains (see table below).

Table 3:2 Difference in Individuals expressing either impulsive or premeditated aggression

	Impulsive aggression	***Premeditated aggression***
social adjustment	*Poor social adjustment; high instance of Hostile attribution bias; Poor social information processing; victimisation by peers.*	*Manipulative and charming; normal peer relations; Normal ratings of self-worth.*
emotional function	*Emotional dysregulation. Score low on measures of psychopathic traits.*	*Controlled but dulled emotional response; Score high on measures of psychopathic traits; Lack of remorse or empathy regarding the use of aggression.*
cognitive ability	*Reduced executive functioning.*	*Planned and/or goal-oriented aggression; Normal executive functioning*
biological function	*Biological disturbances - somatic and anxious/depressive symptoms.*	*Normal*
physiological reactivity	*physiological disturbances*	*Normal*
Treatment response	*Better response to pharmaceutical treatments for aggression.*	*Poor response to pharmaceutical treatments for aggression.*

‘The expression of the aggressive behavior itself that has been shown to be an important predictor of behavioral health outcomes among those with CD. Aggressive behavior and Oppositional Defiant Disorder is a significant predictor for development of CD (Patterson, 1993; Loeber et al., 1998), of treatment outcome (Loeber et al., 1992, 1993), and of impaired functioning (Loeber et al., 2000) and antisocial behaviors (Lynam, 1996; Huesmann et al., 2002). Both child and adult aggression research propose that premeditated aggression is best identified as a disturbance of personality rather than the cognitive/cortico-physiological disturbances seen with the impulsive-aggressive subtype. Finally research on the classification of aggression have tended to mostly sampled either adults (Barratt et al., 1997a) or young children (kindergarten through 3rd grade; Dodge et al., 1997) therefore there is limited research on the understanding of impulsive or premeditated aggression in adolescence (distinct developmental period), although there has always been interest in adolescent aggression (Dollard et al., 1939).

3.4.8. Peers (IPA)

Peer influence on adolescent delinquency is well researched and has also shown that Psychopathic traits moderate peer influence on adolescent delinquency, and are moderators of peer influence on delinquency of close peers (Warr, 2002, Kerr, Van Zalk, & Stattin, 2012). Although adolescents with high CU traits influenced other delinquent peers, however peers low on CU traits had no effect. due to their high levels of both delinquency and manipulative traits (Kimonis et al., 2004; Kerr et al., 2012). Conversely research by Quay (1993) showed instead that peers callous-unemotional or impulsive-irresponsible traits might reduce peer influence on delinquency.

3.4.9. Social and familial factors

Familial factors such as parental substance abuse, psychiatric illness, marital conflict, and child abuse/neglect have consistently been reported as increasing the risk of behaviour problems (Enebrink, Andershed, & Langstrom, 2005). These families are likely to have more financial problems which will further worsen the situation. There is also an overrepresentation of behavioural problems in lower socioeconomic groups, although it should be noted it is present in all levels of society (Costello, Mustillo, Erkanli, Keeler, & Angold, 2003).

Of all the types of parenting the inconsistent form in relation to both discipline and availability, is a very important factor to increase the likelihood of behavioural problems, due to these children being more likely to not form a consistent link between their behaviour and consequences (Kim-Cohen, Moffitt, Taylor, Pawlby, & Caspi, 2014). Other behaviours present in early childhood that also influences parental behaviour includes impaired responsiveness, high irritability, and being inconsolable. This difficult behaviour may in turn lead caregivers to give a coercive and inconsistent response, which is even more likely with the presence of a parental psychiatric condition or substance abuse problems (Kim-Cohen et al, 2014), increasing the likelihood of maltreatment (Dodge et al, 1995; Jaffee, Caspi, Moffitt, & Taylor, 2004;2005). Due to the issues within the family, these children are also more likely to be susceptible to the influence of deviant peer groups, especially in the early teens (Dishion, McCord, & Poulin, 1999; Thornberry, Krohn, Lizotte, & Chard-Wierscem, 1993).

3.5. Rationale, Aims and Research Questions

While informative, most of the information reported above are based on studies from clinical settings. Findings from clinical settings cannot be regarded as representative because adolescents who receive treatment are often very different from members of the general population with the same disorder who have either not sought or not been able to gain access to treatment (Costello, Pescosolido, Angold, & Burns, 1998; Kapphahn, Morreale, Rickert, & Walker, 2006; Kleinbaum, Kupper, & Morgenstern, 1982; Zuvekas & Taliaferro, 2003). Additionally, the literature review also suggests an under-representation of behavioural problems in the community compared to the clinical sample could be due to funding cuts in C.A.M.H.S and the education system, so only the most severe forms of behavioural problems are recognised and recorded.

Therefore, the overall aim of this study is to compare the prevalence and correlates of behavioural problems among adolescents in clinical and community samples. The more specific research questions are as follows:

- What is the prevalence of behavioural problems among adolescents in clinical and community settings?

- Does the frequency and type of behavioural problems differ across gender, age, and ethnic groups?

- Which factors are associated with behaviour problems?

3.6. Methods

3.6.1. Participants

Participants used in this study were (N = 318) from both clinical and community settings. Detailed outline of how these participants were sampled and demographics are found in chapter 2, section 2.4.

3.7. Procedure

This research was approved by the University of Roehampton's Ethics Committee. Further information about consent procedures and ethical considerations were described in chapter 2, Section 2.4.

3.7.1. Instruments

Questionnaires used in this study were shown in Table 3:4 below. Detailed outline of the questionnaires is found in chapter 2, section 2.5.

Table 3:4 Questionnaires used in study 1

Instrument	What measures	Number of items	Cronbach's alpha
Demographic Information	Socio-demographic Information	13	N/A
SAHA	Involvement in or risk of Antisocial behaviour	19	.74
YI-4 (DSM-5)	Symptoms of conduct disorder and oppositional defiant disorder	16	.82
BSC	Dispositional self-regulatory behaviours	13	.74
TEQ	Empathy-related behaviours associated with the theoretical facets of empathy	16	.52
RSES	Self Esteem	10	.52
IPAS	Impulsive and premeditated aggressive	30	.93
IPA	Attachment to peers	25	.87
YSR	Internalising and externalising problems	108	.94

3.7.2. Statistical Analysis

The IBM SPSS 25.0 software programme was used to conduct the analyses. Prior to data analysis, data was screened for missing values, outliers, and normality of distribution. All the data analysed, used a minimum alpha value of .05 to test for significance.

The following tests were used to analyse the data:

a) Descriptive statistics were calculated for all participants (both in the community and clinical groups) to evaluate the prevalence of behavioural problems and cut off points. The Split (low; medium; high) is based on answers of high prevalence = very often; medium = sometimes/often) low = no instance of behaviour problems.

b) Using a Chi-Square cross tabulation to compare the frequency distribution of cases based on grouping the types of behaviour (YI-4) as listed in DSM-5: (1) Aggression to People and Animals; (2) Destruction of Property; (3) Deceitfulness or Theft and (4) Serious Violations of Rules by settings (clinical versus community) as well as by gender; ethnic group and age.

c) Multivariate and separate univariate analyses were performed to examine gender, ethnicity and age differences on frequency and type of behaviour problems.

d) A further ANOVA was run, to look for significant differences between the clinical and community group via a repeated measures ANOVA.

To check for the normality of data distribution a Kolmogorov Smirnov (KS) test was used. Variables showed a significant result and thus the assumption of normality of

distribution for these variables was not confirmed. However, as the sample size is large enough and provides a power analysis, the decision to continue with parametric tests was made as it was also considered that none of the variables is higher or lower ±3 (Stevens et al, 2012).

3.7.3. Checking for assumptions of the tests used in this Chapter/Study 1

Assumptions of MANOVA: Considering the assumptions of *independence of observation* and *random sampling*, the sample size is large enough and randomly collected to prove that this assumption was not violated. Considering the assumption of *multivariate normality*, according to Stevens et al, (2012), if all variables meet univariate and bivariate normality, multivariate normality can be assumed as not violated. In this respect, this assumption is not violated. Considering *homogeneity of variance-covariance matrices*, Levene's Test for each dependent variable and the Box's M Test of Equality.

3.8. Results

3.8.1. The prevalence of behavioural problems among adolescents in Clinical and community settings

Based on the frequency of behaviour problems (as measured using YI-4) as reported by the adolescents, three groups were differentiated: low (answered never in the questionnaire), medium (answered sometimes/often in questionnaire), and high (answered very often in questionnaire). Based on this category, 5.6% and 0% of the adolescents in the clinical and community settings, respectively have an elevated level of behaviour problems. The frequency of adolescents in the clinical setting with medium level of behaviour problems was 22.2%, compared to only 10.10% in the community setting. This suggested that the clinical sample was double that of the community sample. Low or non-evident behaviour problems was reported by 72.2% for the clinical sample and 89.9% by the community sample.

Further inspection showed there were no differences among both groups for the high behaviour problems. However, when looking at both medium and elevated level of behaviour problems the clinical sample is three times higher that of the community sample.

Table 3:5 Percentages of behavioural problems (measured by YI-4) by type and setting

		Sample	
		Clinical N (%)	Community N (%)
YI-4	Low (answered question never)	65 (72.2%)	205 (89.9%)
	Medium (answered sometimes/often)	20 (22.2%)	23 (10.10%)
	High (answered very often)	5 (5.6%)	0 (0%)

Note: YI-4 = Youth Inventory-4.

Overall, the results of the YI-4 (DSM 5) have shown a higher overall evidence of behaviour problems for the clinical compared to community group when classified by high, medium, and low scores.

Table 3:6 Specific types of symptoms of conduct disorder as measured using YI-4 by settings

	Clinical sample Mean (SD)	**Community sample Mean (SD)**	**F**	**p**
Aggression to People and Animals	**1.83 (2.9)**	**.65 (1.5)**	**22.63**	**.000**
1. Often bullies, threatens, or intimidates others.	.47 (.79)	.08 (.34)	16.89	.000
2 Often initiates physical fights	.53 (.85)	.20 (.46)	19.82	.000
3. Has used a weapon that can cause serious physical harm to others	.47 (.77)	.07 (.37)	38.49	.000
4 Has been physically cruel to people.	.31 (.68)	.08 (.30)	17.77	.000
5 Has been physically cruel to animals.	.13 (.48)	.10 (.40)	.49	.48
6 Has stolen while confronting a victim	0 (0)	.05 (.29)	2.91	.09
7 Has forced someone into sexual activity.	0 (0)	.03 (.21)	1.44	.23
Destruction of Property	**.02 (.15)**	**.06 (.34)**	**1.20**	**.27**
8 Has deliberately engaged in fire setting with the intention of causing serious damage.	0 (0)	.03 (.21)	1.46	.23
9 Has deliberately destroyed others' property (other than by fire setting).	.02 (.15)	.04 (.18)	.35	.56
Deceitfulness or Theft	.18 (.38)	.27 (.82)	1.07	.30
10 Has broken into someone else's house, building, or car.	0 (0)	.07 (.35)	3.82	.51
11 Often lies to obtain goods or favors or to avoid obligations (i.e., "cons" others).	.1 (.3)	.14 (.35)	.85	.36
12 Has stolen items of nontrivial value without confronting a victim	.08 (.27)	.05 (.29)	.48	.49

Serious Violations of Rules	.59 (1.23)	.20 (.79)	10.86	.001
13 Often stays out at night despite parental prohibitions, beginning before age 13 years.	.3 (.76)	.11 (.47)	10.45	.001
14. Has run away from home overnight at least twice while living in the parental or parental surrogate home, or once without returning for a lengthy period.	.08 (.27)	.26 (.16)	4.39	.04
15 Is often truant from school, beginning before age 13 years.	.18 (.63)	.07 (.29)	4.28	.04

Table 3:6 shows the most commonly reported classes of behaviour problems based on YI-4 was mostly related to "aggression to people and animals". Of the 7 types of behaviour under this category, 4 were significantly higher in the clinical than in community settings; this behaviour was related to "Often bullies, threatens, or intimidates others"; "Often initiates physical fights"; "Has used a weapon that can cause serious physical harm to others"; and "Has been physically cruel to people".

The next common category was related to "Serious Violations of Rules". Two items "Often stays out at night despite parental prohibitions, beginning before age 13 years" and "Is often truant from school, beginning before age 13 years" were significantly higher in the clinical than in community settings, whereas "Has run away from home overnight at least twice while living in the parental or parental surrogate home, or once without returning for a lengthy period" were significantly higher in the community than in the clinical sample.

3.8.2. Prevalence of antisocial behaviour as measured by SAHA

In Table 3.7, the frequency of antisocial behaviour as measured using SAHA. The level of frequency were divided into three groups: low (i.e., didn't involve with any of the antisocial behaviour), medium (i.e., involved in the antisocial behaviour of 1-2 times), and high (i.e., involved at least 3times in antisocial behaviour). Similar to the results found in the YI-4, the frequency of anti-social behaviour was significantly higher among adolescents in the clinical than in community setting.

Table 3:7 Percentages of behavioural problems among adolescents measured by SAHA

			Sample	
			Clinical	Community
SAHA	Low	N %	25 (27.8%)	173 (75.9%)
	Medium	N %	65 (72.2%)	55 (24.1%)
	High	N %	0 (0 %)	0 (0 %)

Note: SAHA = the Social and Health Assessment.

As shown in Table 3.8a the 3 most common behaviour problems for the whole groups were rule-breaking behaviour with lying to parents (10.4%) and lying to a

teacher (8.8%) showing the highest prevalence. 5.3% of the adolescents reported seeing someone get shot or stabbed and hurting someone so badly in a fight they had to get medical treatment.

When comparing the type of delinquent behaviour problems across the setting, the most common in the community group was rule-breaking behaviour, ‘lied to a teacher; stayed out all – night; and lied to your parents and guardians; similar findings were found, in the clinical sample. Adolescents in the clinical sample reported a higher occurrence of skipped school without permission; hurt someone badly in a physical fight they had to receive treatment by a doctor or nurse; and seen someone get shot or stabbed.’

Table 3:8a Frequency of ASB in clinical/community by SAHA ***QUESTIONS***	***CLINICAL*** ***N %***		***COMMUNITY*** ***N %***	
	2-4	***5+***	***2-4***	***5+***
a. lied to a teacher to cover up something they did.	44 (48.9%)	7 (7.8%)	20 (8.8%)	21 (9.2%)
b. stayed out all night without permission.	0 (0%)	2 (2.2%)	6 (2.6%)	10 (4.4%)
c. lied to your parents or guardians about where you have been or who you were with?	5 (5.6%)	19 (21.1%)	15 (6.6%)	14 (6.1%)
d. skipped school without permission?	20 (22.2%)	0 (0%)	0 (0%)	0 (0%)
e. hurt someone badly in a physical fight so that they had to be treated by a doctor/nurse?	0 (0%)	15 (16.7%)	2 (.9%)	2 (.9%)
f. carried a gun?	0 (0%)	0 (0%)	2 (.9%)	0 (0%)
g. been involved in gang fights?	2 (2.2%)	0 (0%)	4 (1.8%)	2 (.9%)
h. been arrested by the police?	5 (5.6%)	0 (0%)	0 (0%)	0 (0%)
i. seen someone get shot or stabbed?	0 (0%)	15 (16.7%)	2 (.9%)	2 (.9%)
j. been suspended from school?	2 (2.2%)	10 (11.1%)	2 (.9%)	0 (0%)
k. been <u>at school</u> after drinking alcohol?	0 (0%)	0 (0%)	0 (0%)	0 (0%)
l. been high <u>at school</u> from smoking marijuana?	0 (0%)	7 (7.8%)	0 (0%)	0 (0%)
m. stolen a motorcycle or car?	0 (0%)	0 (0%)	0 (0%)	0 (0%)
n. pick-pocketed somebody?	2 (2.2%)	0 (0%)	0 (0%)	0 (0%)
o. sold drugs to earn money?	0 (0%)	5 (5.6%)	0 (0%)	0 (0%)
p. been in juvenile court because of your behaviour?	2 (2.2%)	0 (0%)	0 (0%)	0 (0%)

Our findings also showed that 71.1% of the adolescents in the clinical setting reported the presence of gang in their neighbourhood, compared to 36% in the community setting (Table 3.8b). The percentage of adolescents in the clinical setting who belonged to gang was also significantly higher than in the community setting.

Table 3.8b gangs.

	YES	***No***	***Yes***	***No***
2.a. Are there any gangs in your neighbourhood?	64 (71.1%)	26 (28.9%)	82(36.0%)	106 (47.7%)
2.b. Do any of the students ate your school belong to a gang?	47 (52.2%)	43 (47.8%)	14(6.1%)	214 (93.82)
2.c. Have you ever belonged to a gang?	5 (5.6%)	85 (94.4%)	6(2.6%)	222 (97.46%)

3.9. Summary

Significant group differences were found in the prevalence of behaviour problems across most questions (Table 3:8a & b). Specifically, the clinical group had a significantly higher rate in individual behaviour Problems when compared with the community group.

3.9.1. Frequency and type of behavioural problems by gender, age, and ethnic groups

By grouping the types of behaviour by (1) Aggression to People and Animals; (2) Destruction of Property; (3) Deceitfulness or Theft and (4) Serious Violations of Rules, a comparison was made of a type of behaviour problems to highlight any differences across the grouping below (gender; age or ethnic groups) using a Chi-Square cross tabulation.

3.9.1.1. Gender

Analysis of the data using Chi-square cross tabulation revealed that type of behavioural problems grouping was significantly associated with gender for "Aggression to People and Animals", (8, N = 318) = 29.72, p <.01. Also, Serious Violations of Rules, (6, N = 318) = 28.91, p <.01. Both types of behavioural problems were higher for the male group when compared to the female group.

3.9.1.2. Ethnic group

Analysis of the data using Chi-square cross tabulation revealed that type of behavioural problems was significantly different across ethnic group (White; Black; Asian or other) on the following behaviour grouping: "Serious Violations of Rules", (6, N = 314) = 32.58, p <.05. This finding showed that adolescents in the both white and black groups did show a high prevalence of behaviour related to serious violation of rules.

3.9.2. Age

Analysis of the data using Chi-square cross tabulation revealed significant different with age for “Aggression to People and Animals”, (8, N = 318) = 38.57, p <.001.This finding suggested that behavioural problems were higher among adolescents in the age grouping 11-14 years, when compared to those in the age group15-17 years.

*Which factors are associated with behaviour problems? Are these correlates specific to types of behaviour problems**?***

3.9.3. Which factors are associated with behaviour problems? Are these correlates specific to types of behaviour problems?

A Multivariate Analysis of Variance (MANOVA) was conducted with twelve demographic variables as independent variables, and with three behavioural problems measure’s; total SAHA; total SAHA gangs and total YI-4 (DSM5) combined as dependent variables. The twelve independent variables included: ethnicity; religion; are you living with both parents; Is your mother working; Is your father working; mother’s highest education; father’s highest education; No. of times family has moved in last year; are you entitled to free lunches; clinical community sample; gender; age.

Table 3:9 YI-4 Multivariate results demographic; age; gender; ethnicity; religion and YI-4

Independent Variables, DV=YI-4	F	df
Ethnicity	2.3	3
Religion	**3.4	7
Living with both parents	.4	1
Mother works	2.97	1
Father works	2.13	1
Mothers highest education	*3.11	4
Fathers education	1.69	5
No. of times family moved in last year	***6.31	5
Entitled to free lunches	*3.12	2
Clinical or community	.86	1
Gender	.05	1
Age	**3.48	5
Internalising behaviour	***7.14	26
Externalising behaviour	***16.58	24

*=P<.5, **P<.01, ***= p<.000.

We can see from table 3:9 that further analysis (ANOVA) shows that total; ethnicity; religion; Mothers highest education; No of times family has moved in last year? age; internalising and externalising behaviour (measured separately) does not a highly statistically significant effect on behaviour problems measured by YI-4 (DSM5).

Similarly, when looking at their father's highest education achievement or entitlement to free lunches or sample (clinical or community), none have statistically significant effects on behaviour problems measured by YI-4 (DSM5). Only religion; mother's highest education achievement; entitlement to free lunches; Age; internalising and externalising behaviour (measured separately) had a statistically significant effect on behaviour problems measured by YI-4 (DSM5).

Table 3:10. Multivariate – demographic age; gender; ethnicity; religion & SAHA

Independent Variables SAHA	F	Df
Ethnicity	***7.9	3
Religion	***7.2	7
Living with both parents	1.96	1
Mother works	.31	1
Father works	.37	1
Mothers highest education	***6.38	4
Fathers education	.37	5
No. of times family moved in last year	***13	5
Entitled to free lunches	1.41	2
Clinical or community	*5.85	1
Gender	1.98	1
Age	***5.87	5
Internalising behaviour	***7.18	26
Externalising behaviour	***14.7	24

*=P<.5, **P<.01, ***= p<.000

We can see from table 3:10 that further analysis (ANOVA) shows that total; ethnicity; religion; Mothers highest education; No of times family has moved in last year? And Age has a highly statistically significant effect on behaviour problems measured by SAHA (total scores) and Gang questionnaires (total SAHA gangs). Similarly, when looking at their father's highest education achievement or entitlement to free lunches or sample (clinical or community), all have statistically significant effects on behaviour problems although not as high as the previous variables measured by SAHA (total scores) and Gang questionnaires (total SAHA gangs).

Religion; mother's highest education achievement; entitlement to free lunches; Age; internalising and externalising behaviour (measured separately) has a statistically significant effect on behaviour problems measured by SAHA (total scores) and Gang questionnaires (total SAHA gangs).

Table 3:10 Correlations between behaviour problems & other variables (Self-control; empathy; self-esteem; hostile attribution bias; aggression and peer relationships.

Independent variable	SAHA total		DSM YI-4 total	
	Clinical	community	Clinical	Community
BSC - impulsivity	.680**	.403**	0.070	.239**
BSC - Restraint /Self discipline	.268*	.435**	.227*	.238**
BSC - Mixed -impulsivity and restraint	.419**	.489**	0.085	.362**
BSC Total (indicates level of all elements of impulsivity & self-control)	.585**	.531**	0.126	.305**
TEQ - perception of emotional state in others	0.044	0.056	.294**	-0.124
TEQ - Emotion comprehension in others	-0.011	-3.13**	.436**	-0.124
TEQ - Emotional state in others through sensitivity	-.374**	0.015	-.557**	-0.124
TEQ - Sympathetic physiological arousal	-0.023	0.235	-0.169	-0.101
TEQ – altruism	-0.003	.137	-.353**	0.042
TEQ – empathy other	0.027	.045	-0.565**	-0.045
RSES total self esteem	0.018	.214**	.322**	.172*
HAB	-.361**	-0.011	.249*	0.062
IPAS affect functioning	.608**	0.078	0.144	.290**
IPAS Impulsive aggressive acts	-.487**	-2.54**	-.239*	-.350**
IPAS Premeditated aggressive acts	-.455**	-.308**	-0.149	-.472**

IPAS familiarity with target and remorse	-.447**	-1.69*	.0.095	-.314**
Peer – trust	-0.068	-0.064	0.023	-.139*
Peer – Communication	0.545*	0.047	0.324*	0.074
Peer – alienation	0.032	0.062	0.145	0.358

3.9.4. BSC measures

Correlations were computed among six self-regulation scales (BSC: Impulsivity; restraint/self-discipline; mixed impulsivity & restraint and BSC total) for clinical and community samples using SAHA and YI-4 measures.

The results for the SAHA suggest that all (8 out of 8) correlations across both groups were positively statistically significant and were greater or equal to $p < .05$, two-tailed. . In general, the results suggest that as self-regulation goes up problem behaviour goes up with the exception of perception of emotional states in others. Interestingly the results for the YI-4 suggest that 5 out of 8 correlations mainly for the community group were only positively statistically significant and were greater or equal to $p < .05$, two-tailed, with other self- regulation measures in the clinical group were not significant. In general, the results suggest that across the community group only as self-regulation goes up problem behaviour goes up also.

3.9.5. TEQ measure categories

Correlations were computed among six empathy scales (TEQ: perception of emotional state in others; emotion comprehensive in others; emotional state in others through sensitivity; sympathetic physiological arousal; altruism and empathy other category) on data for clinical and community samples using SAHA and YI-4 measures.

The results for the SAHA suggest that 2 out of 12 correlations across both groups (clinical or community) were negatively statistically significant and were greater or equal to $p < .05$, two-tailed., other empathy measures were not significant. In general, the results suggest that across both samples as empathy goes up problem behaviour goes down with the exception of perception of emotional states in others. Interestingly the results for the YI-4 suggest that 5 out of 12 correlations for the clinical group only were either negatively or positively statistically significant and were greater or equal to $p < .05$, two-tailed, other empathy measures were not significant. In general, the results suggest that across the clinical only as empathy goes up problem behaviour goes down.

3.9.6. RSES measures categories

Correlations were computed among total self-esteem on data for clinical and community samples using SAHA and YI-4 measures. The results for the SAHA suggest that 1 out of 2 correlations for the community group only were positively statistically significant and were greater or equal to $p < .05$, two-tailed, In general, the results suggest as self-esteem goes up problem behaviour goes up also for community group only. However,

the results for the YI-4 suggest that both correlations for all groups were either positively statistically significant and were greater or equal to $p < .05$, two-tailed, In general, the results suggest as self-esteem goes up problem behaviour goes up also.

3.9.7. HAB measure categories

Correlations were computed among total hostile attribution bias (HAB) on data for clinical and community samples using SAHA and YI-4 measures. The results for the SAHA suggest that 1 out of 2 correlations for the clincial group only were negatively statistically significant and were greater or equal to $p < .05$, two-tailed, In general, the results suggest as HAB goes up problem behaviour goes down for cliincial group only. However, the results for the YI-4 suggest that correlations for clincal group again were positively statistically significant and were greater or equal to $p < .05$, two-tailed, In general, the results suggest as self-esteem goes up HAB gpes down for the clincal group only.

3.9.8. IPAS measure categories

We can also see from table 3:10 that the correlation analysis with both the SAHA & YI-4 (DSM) split between clinical & community sample showed that the following independent variables measured by the IPAS: all categories on the SAHA ; affect functioning impulsive aggressive acts; premeditated aggressive acts and familiarity with target and remorse were significantly negatively associated in both the clinical and community, except on affect functioning whereby the clinical sample had a significant

positive association but non-significant for the community. However on the YI-4, ; affect functioning was only significantly correlated on the community bt not the clinical sample, but both samples were significantly negatively correlated with impulsive aggressive acts; premeditated aggressive acts and familiarity with target and remorse were only significantly correlated with the community samples were significantly negatively associated and not in the clinical.

3.9.9. Peer measure categories

We can also see from table 3:10 that the correlation analysis with both the SAHA & YI-4 (DSM) split between clinical & community sample showed that of the following independent variables measured by the IPA (peer): only peer trust in the community was negatively associated with the YI-4 (DSM) for the community sample only. Similarly, only the peer criminal association was significantly associated with the clinical sample only on both measures (SAHA & YI-4 DSM). Peer alienation had non-significant association across both measures and samples (clinical and community).

Similarly, when looking at their father's highest education achievement or entitlement to free lunches or sample (clinical or community), none have statistically significant effects on behaviour problems measured by YI-4 (DSM5).Only religion; mother's highest education achievement; entitlement to free lunches; Age; internalising and externalising

behaviour (measured separately) has a statistically significant effect on behaviour problems measured by YI-4 (DSM5).

3.10. Discussion

This overall aim of the present study was to compare behavioural problems among adolescents in clinical and community settings. The other aims were to investigate the correlates of behaviour problems.

3.10.1. Primary Findings

Boys have significantly higher prevalence on behaviour problems than girls. These results are in line with earlier studies that the average overall prevalence for CD by gender is higher for boys than for girls, in both community and clinical settings (Blair et al, 2014).

Interestingly behaviour problems were significantly associated with an ethnic group (White; Black; Asian or other), specifically ODD and CD type. Both white and black ethnic groups showed a reasonably high prevalence of both types (OD or CD) behaviour problems, however, this was slightly higher for Black when compared to the white ethnic group on both types (OD and CD type) but slightly higher on CD type. However, these results need to be viewed with caution as further research into the overall prevalence of different ethnic groups within the overall population of the area is required to ascertain if these results are not influenced by a disproportional

representation of a certain ethnic group in this current area. Previous research by Vermeiren et al, (2002) with 14-17 year old's also measured using the SAHA in Belgium; Russia & USA reported moderately varied results across countries which is not surprising since within different countries ethnicity can also vary disproportionally, although this was not highlighted in the study by Vermeiren et al (2002) this could have some impact on the results although clearer investigation would need to be carried out, including excluding SES (social economic status) as an additional factor behind any findings in relation to Ethnicity.

Looking at SES overall in this study showed that group (clinical or community) was significantly associated with an increase in behaviour problems, but only by the clinical group. Another measure of SES (are you entitled to free lunches?) showed comparable results. This showed a difference in the level of problem behaviour for the clinical group in relation to SES, like Enebrink et al., (2005), where SES (e.g.: marital conflict), was consistently reported as increasing the risk of conduct disorder and behaviour problems. Further supporting Costello et al, (2003) research showing an overrepresentation of CD in lower socioeconomic groups. Interestingly, however, the following four variables used as a measure of SES; 1. Are you living with both parents; does your 2. mother or 3. Father work (measured separately) and 4. Gender has not shown a difference in the level of behaviour problems. In the clinical group especially, behaviour Problems did increase significantly with age and ethnicity, while, in the community group, results of between-group differences were overall significant. With, post-hoc comparisons of behaviour

Problems between the clinical and the control group showing a significant difference in group comparisons with gender and ethnicity but not with age range.

3.10.2. Unexpected Findings

Some unusual results were results that were higher for the community than the clinical sample (e.g.: 'I have forced someone into sexual activity'; 'I have deliberately engaged in fire setting with the intention of causing serious damage';' I have broken into someone else's house, building, or car.' This was found in the pre-testing, the post-testing for the sample will be conducted after the intervention when these results were compared at post-testing to see if these are actual or participant reactivity and/or demand characteristics.

3.10.3. Limitations and Future Recommendations

These findings should be evaluated in the context of the study's limitations. As with any study, its findings may be measurement-specific, and replication is needed. The difficulty of comparing the measures used namely the SAHA which does not allow for a clear separation of the rule-breaking and the more aggressive type behaviours. This means that any comparisons are problematic, a future study could look at the separation of the factors to enable clearer comparisons between diagnostic measures and general measures to enable earlier identification of the less severe factors which left untreated could lead to a diagnosis of Odd or CD.

Measurements included the use of self-reports from adolescents, in future studies by including parental reports and observational data there could be a more complete picture of the complex multifaceted interaction between risk factors. A further limitation that has been found in the literature is the lack of both consistent self-report measurements, and the possibility of confounding variables for example ethnicity which is not fully explored. To address this concern, the current study was conducted on a sound theoretical basis, grounded in earlier studies but considering the recent changes in the classification of Behaviour Problems in and looking at other compound variables. Given the significance assigned to problem behaviour prevalence in the findings of this study, it is vitally important to assess in future studies whether this is the same when splitting problem behaviour further with the presence of Callous and Unemotional (CU) traits in line with the new DSM criteria Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition – (DSM-5; APA, 2013).

3.11. Conclusion

In conclusion, the results of this chapter supply evidence on the higher prevalence of Behaviour Problems in the clinical when compared to the community sample. In addition, the findings highlight, that the role of both ethnicity, gender, age, and demographic information is complex.

CALLOUS AND UNEMOTIONAL AND OTHER CO-MORBID TRAITS WITH BEHAVIOURAL PROBLEMS - *Successful versus unsuccessful; psychopathy (STUDY 2)*

4.1. Overview

The aim of this chapter is to review the literature on callous-unemotional traits (CU). In the present study (2) another aim was to explore the association between CU and behaviour problems in adolescents.

4.2. Callous/Unemotional Psychopathic Traits

Children and adolescents with psychopathic traits have been described as lacking sympathy and helpfulness, being selfish, having diminished guilt, reduced need for social affiliation and approval, and dampened emotional expression (Essau, Sasagawa, & Frick, 2006b; Frick, O'Brien, Wootton, & McBurnett, 1994). Between 10% and 50% of youth across the community (Marsee, Silverthorn & Frick, 2005) and clinic-referred samples named with the CU Specifier, with a higher prevalence for clinical samples (Fanti, Demetriou, & Kimonis, 2013).

Earlier studies have shown callous/unemotional (CU) traits to be related to the age of onset and associated with an increased severity/chronicity of conduct problems (Frick, 1998; Frogner, Gibson, Andershed, & Andershed, 2018; Pardini, Obradovic & Loeber, 2006). Children and adolescents with behavioural problems and CU traits have shown substantial evidence of deficits in emotion processing, such as decreased orienting to

affective stimuli (Kimonis, Frick, Fazekas, & Loney, 2006, Loney, Frick, Clements, Ellis, & Kerlin, 2003), insensitivity to distress cues (Muñoz, Frick, Kimonis, & Aucoin, 2008) and reduced vicarious affective responsiveness (Anastassiou-Hadjicharalambous & Warden, 2008a & b).

A series of studies by Frick (1998) and his colleagues have shown that youth with CU traits tend to express more proactive (Muñoz et al., 2008) and more covert antisocial behaviour (Serin,1991) and property destruction (Van Baardewijk, Stegge, Bushman. & Vermeiren, 2009). then those who do not have CU traits (Christian, Frick, Hill, Tyler, & Frazer, 1997). Two hypotheses offer an explanation, of the link between CU traits and behavioural problems (Frick et al., 1994; Kroneman, Hipwell, Loeber, Koot, & Pardini, 2011). First, most children with CU traits tend to have a low level of behavioural inhibition (Roussy & Touppin, 2000), shown by studies where these children have increased thrill and adventure seeking, low fearfulness (Marsh, Finger, Mitchell, Reid, Sims, Kosson, & Blair, 2008) and diminished responsiveness to punishment cues (Blair, Colledge, Murray, & Mitchell, 2001; Blair, Mitchell, & Blair, 2005; Blair, Peschardt, Budhani, Mitchell, & Pine, 2006), underlined by under-activity in the autonomic nervous system (Frick & Marsee, 2006; Raine, Venable, & Williams, 1990). It has been suggested that low behavioural inhibition (Roose, Bijttebier, Claes & Lilienfeld, 2011) is related to increased dependence on rewards and decreased attention to punishments or consequences, which could explain why children with CU traits are less influenced and affected by the painful reactions of others due to their behaviour (Waschbusch, Walsh, Andrade, King, & Carrey, 2007). Second, the interactions among parents and children

with CU could also lead to the development of behavioural problems (Frick, 1998), as the parents' ability to provide adequate social modelling, responsiveness to a child's emotional needs and discipline strategies may be impeded by the presence of psychopathic traits (Waschbusch, & Willoughby, 2008). Consequently, a child may not receive the parenting needed to counter the development of conduct problems (Frick, 1998; Viding, Blair, Moffitt, & Plomin, 2005 & Viding, Fontaine, Oliver, & Plomin 2009).

Youth with CU traits currently have a differential treatment response compared to other antisocial youth (Hawes & Dadds 2007), as mentioned previously the new specifier for the diagnosis of CD designates those 'with significant callous-unemotional Traits' this further enables distinction in research of individual characteristics' (Pardini, Lochman & Powell, 2007) to inform the development of client appropriate interventions (Frick et al. 2000). Importantly the CU specifier names a unique group (Andershed, Gustafson, Kerr & Stattin, 2002) not solely accounted for by differences in aggression (Salekin, 2006). A considerable number of youths without CD meet the criteria for the proposed CU specifier, suggesting this is a clinically relevant group that deserves further research (Frick & White, 2008).

Conversely, Hare (1991; 1993) reported that psychopaths in prison "represent only the tip of a very large iceberg," moreover certain professions are prone to having a significantly high number of people with psychopathic traits termed as 'Successful psychopaths' (e.g. business, military, law enforcement politics) when compared to other professions (Babiak & Hare, 2006; Fowles & Dindo, 2006; Stevens et al, 2012).

Successful psychopathic traits include guiltless, callous, self-centered, and without purpose personalities (McCord & McCord, 1964), which are successful in making people trust them. Successful psychopathy may be a completely random form, whereby the adaptive traits (e.g. superficial charm, social poise) are very prominent. Evidence of successful psychopaths have been shown, to include individuals, such as GP's and businesspeople, who had marked psychopathic traits but achieved career success and tend to express their antisocial behaviour through more covert avenues such as social manipulation. Critics of the idea of successful psychopathy, however, say that it cannot exist due to psychopathy being naturally pathological (Kiehl & Lushing, 2014).

Successful psychopathy can be conceptualised in three models (Hall & Benning, 2006).

(1) The differential-severity model supposes that successful psychopathy is merely a mild expression of clinical psychopathy. This model presumes that psychopathy is only one construct, so successful and unsuccessful psychopathy only differ in intensity and is more of a spectrum.

(2) The moderated-expression model, states that successful psychopathy is an atypical existence of psychopathy who is maladaptive frowned upon behavioural manifestations are counterbalanced, by protective factors (e.g.: executive functioning, intelligence, or effective parenting). This model also posits that psychopathy is only one construct, but it also shows that successful psychopathy is associated with one or more variables (additional to psychopathy itself) that buffer individuals against maladaptive outcomes.

(3) The differential-configuration model, states that successful psychopathy is a different configuration of personality traits, including boldness and conscientiousness, then in unsuccessful psychopathy. In contrast to the first two models, this model presumes that psychopathy is a combination of two or more distinct traits rather than one construct and that successful and unsuccessful psychopathy differs in their individual traits.

An additional overwhelming perspective that is consistent with the differential-configuration view is the triarchic model (Patrick & Drislane, 2015), which proposes that classical psychopathy is a combination of three dimensions: boldness (fearless dominance), disinhibition, and emotional coldness (or meanness). This model states that boldness is marked by a heightened threshold of reactivity in the brain's defensive (threat) system (Patrick & Drislane, 2015). Successful psychopathy can be viewed, as a combination of both elevated levels of boldness (higher than in unsuccessful psychopathy) and low disinhibition, combined with emotional coldness. This hypothesis compliments findings that (a) fearless dominance is associated with adaptive behaviours and (b) successful psychopathy is associated with elevated conscientiousness and intact or superior executive functioning, both of which are tied to low disinhibition (Krueger, Markon, Patrick, Benning, & Kramer, 2007).

Recent evidence suggests that, in contrast to unsuccessful psychopathy, successful psychopathy is characterised by higher levels of involuntary responsivity and executive functioning (Fontaine, Barker, Salekin & Viding, 2008) it could also be linked to elevated fearless dominance and conscientiousness or, within the triarchic model, high

boldness and low disinhibition (Lilienfeld, Watts, & Smith, 2015). These results lend initial support to both the moderated- expression and differential-configuration models, giving the possibility that they are pre-disposed to integration. The unique traits of successful psychopathy may be protective factors that buffer psychopathic individuals against antisocial outcomes. Alternatively, there may be variables that combine with core psychopathic features, such as guiltlessness and callousness, to form a distinctive "subspecies" of psychopathy (Lilienfeld, et al, 2015).

4.3. Rationale, Aims and Research Questions

The overall aim of this study (2) is to examine the association between Callous Unemotional (CU) traits and behaviour problems. The more specific aims are:

- To examine the prevalence of CU.

- To examine the association between CU and mental health problems.

- To examine the main and interactive effects of CU and antisocial behaviour.

Studies traditionally explore the joint role of Conduct Disorder and CU traits and their association to numerous maladaptive outcomes in youths (i.e., Conduct Disorder was analysed at high or low levels of co-occurring CU traits). Different profiles have all been found for subjects with high Conduct Disorder and low CU traits and for subjects with high Conduct Disorder and co-occurring high CU traits (i.e., Conduct Disorder with limited prosocial emotions; DSM 5).

In doing the present analyses a different approach was used in the analysis of CU traits at high or low levels of co-occurring Antisocial Behaviours. This approach was realised considering the longitudinal study by Eisenbarth, Demetriou, Kyranides, & Fanti (2016): Stability subtypes of callous-unemotional traits and conduct disorder symptoms and their correlates. In their longitudinal study, they found that: "…youth high on callous-unemotional traits without conduct disorder symptoms remained at low-risk for anxiety, depressive symptoms, narcissism, and aggression, pointing to a potential protective function of pure callous-unemotional traits against the development of psychopathological problems." These findings were interpreted in line with the construct of successful psychopathy by Liliefeld et al., (2015).

4.4. Methods

4.4.1. Participants

A total of 318 participants (211 male and 95 female) were all recruited, from various organisations in South West London. Specifically, participants were all recruited from 1 high school, 1 Pupil referral unit, and from a community organisation (Table 4.5:1). For this study, participants from the 1 high school and community organisation were all considered as community sample, and those from the pupil referral were considered as a clinical sample.

The participants ranged in age from 11 to 17 years (M=12 years; SD=1.07), and the sample was all relatively diverse, as self-identified by the participants (23.7% were

White, 43.4% Black or African, 22.2% Asian, and 10.8% other/unreported). All students for whom English was their native language were eligible to take part.

4.5. Procedure

This research was approved by the University of Roehampton's Ethics Committee. Further information about consent procedures and ethical considerations were described in chapter 2, Section 2.4.

4.5.1. Instruments

Questionnaires used in this study were shown in Table 4.1 below. Detailed outline of the questionnaires is found in chapter 2, section 2.5.

4.5.2. Summary of measures used in this chapter.

Table 4:1 Summary of measures used in Study 3 (chapter 4)

Instrument	**What measures**	**No. of items**
Demographic Information	Socio-demographic Information	13
The Youth Inventory of Callous-Unemotional Traits	Callousness, Unemotional & Uncaring.	24
Youth Self Report	Internalising and externalising problems	120

4.5.3. Statistical Data Analysis

The IBM SPSS 25.0 software programme was used to conduct the analyses. Prior to data analysis, data were screened for missing values, outliers, and normality of distribution.

All the data analysed, used a minimum alpha value of .05 to test for significance. First, descriptive statistics were calculated for all participants both in the community and control groups to test the prevalence of antisocial behaviour and conduct disorder (CD) with and without CU traits, this was then further split to show the frequency of the disorder by the group with or without CU traits (community or clinical). An ANOVA was run, to examine the significant differences between the clinical and community group via repeated measures ANOVA. This test determined that the clinical group had significantly higher levels of both externalising behaviours with CU traits and psychosocial issues when compared to the community group. In addition, a post-hoc analysis was conducted.

4.6. Results

4.6.1. Descriptive Data Analysis

First, we inspected the distribution of study variables and differences in a mean score based on the attended setting (clinical or community). Second, correlations were inspected using Pearson's r index.

Main analyses involved a series of hierarchical multiple regression analyses to examine the main and interactive effects of CU traits and antisocial behaviours in the association to youths' emotional and behavioural problems (i.e., withdrawn, somatic complaints, anxious and depressed symptoms, social problems, thought problems, attention problems, rule-breaking behaviour, aggressive behaviour). In the multiple regression analyses, gender, age, setting, CU traits, and antisocial behaviours were entered in step 1; the interaction term for CU traits and antisocial behaviours was entered in step 2; two two-way interactions for CU traits with type of setting and for antisocial behaviours and type of setting were entered in step 3; finally, a three-way interaction term between CU traits, antisocial behaviours, and type of setting was entered in step 4. Prior to all analyses, the predictors (i.e., CU traits and antisocial behaviours) were centred by subtracting the sample means; when results indicated significant interactions, the form of the interaction was explored using the posthoc probing procedures recommended by Holmbeck (2002).

4.6.2. Results - Descriptive Analyses and Zero-order correlations

Overall the presence of CU traits in the whole sample was high with 19.5% of the adolescents scoring 32 or more on ICU, showing a medium to an elevated level of CU traits.

The distributions of the variables used in the current study are provided in Table 4:2. The distributions indicated that the variables were relatively normally distributed (i.e., the indices of skewness and kurtosis were within the range [-2.00; +2.00]; (Trochim & Donnelly, 2006), with the exception of the kurtosis values for somatic complaints and rule-breaking behaviour. Nevertheless, considering that skewness values are within the expected range and considering that non-typical distributions are common when psychopathological symptoms are measured in samples including non-clinical participants, we decided neither to transform these two variables nor to adopt non-parametric statistics for the analyses.

Results of t-tests revealed that students from clinical sample had higher levels of callous-unemotional traits (t test = 7.067, df = 316, $p < .001$; M = 27.86 and DS = 7.66 in clinical sample, M = 21.15 and DS = 7.60 in community sample), antisocial behaviours (t test = 11.319, adjusted df = 115.696, $p < .001$; M = 11.11 and DS = 6.43 in clinical sample, M = 2.91 and DS = 3.89 in community sample), attention problems (t test = 3.934, adjusted df = 149.107, $p < .001$; M = 6.26 and DS = 3.30 in clinical sample, M = 4.68 and DS = 2.96 in community school sample), and rule-breaking (t test

= 2.682, df = 305, $p < .01$; M = 4.33 and DS = 3.51 in clinical sample, M = 3.23 and DS = 3.10 in community sample), along with lower levels of thought problems compared to students from community setting (t test = -2.730, df = 314, $p < .01$; M = 3.36 and DS = 3.11 in clinical sample, M = 4.56 and DS = 3.70 in community sample).

Zero-order correlations are provided in Table 4:3. As for main study variable, CU traits was positively related to withdrawn ($r < .11$, $p < .05$), social problems ($r < .12$, $p < .05$), attention problems ($r < .42$, $p < .001$), rule-breaking behaviour ($r < .34$, $p < .001$), and aggressive behaviour ($r < .24$, $p < .001$). Antisocial behaviours were positively associated to somatic complaints ($r < .21$, $p < .001$), anxious and depressed symptoms ($r < .19$, $p < .001$), social problems ($r < .16$, $p < .01$), attention problems ($r < .42$, $p < .001$), rule-breaking behaviour ($r < .42$, $p < .001$), and aggressive behaviour ($r < .38$, $p < .001$). Moreover, CU traits and antisocial behaviours were positively correlated ($r < .42$, $p < .001$).

Table 4:2 Descriptive statistics for CU traits & YSR

.

	Alpha	M (DS)	Range	Skewness	Kurtosis	t test
1- Callous-Unemotional Traits	.76	23.05 (8.19)	6.00 - 41.00	-.05	-.93	7.067 (SSS > CSS; $p < .001$)
2- Antisocial Behaviour	.76	5.23 (6.01)	.00 - 28.00	1.29	.96	11.319 (SSS > CSS; $p < .001$)
3- Withdrawn	.68	3.41 (2.71)	.00 - 11.00	.90	.34	.099 ($p > .05$)
4- Somatic Complaints	.83	3.18 (3.55)	.00 - 17.00	1.69	3.32	-1.045 ($p > .05$)
5- Anxious/Depressed	.79	4.06 (3.75)	.00 - 18.00	1.05	1.03	.970 ($p > .05$)
6- Social Problems	.70	3.60 (3.18)	.00 - 15.00	1.15	1.24	.836 ($p > .05$)
7- Thought Problems	.77	4.22 (3.58)	.00 - 20.00	1.15	1.80	-2.730 (CSS > SSS; $p < .01$)
8- Attention Problems	.67	5.13 (3.14)	.00 - 14.00	.38	-.18	3.934 (SSS > CSS; $p < .001$)
9- Rule-Breaking Behaviour	.72	3.53 (3.25)	.00 - 17.00	1.48	2.81	2.682 (SSS > CSS; $p < .01$)
10- Aggressive Behaviour	.83	5.61 (4.81)	.00 - 22.00	1.32	1.43	.453 ($p > .05$)

Table 4:3 Zero order correlations for CU & YSR study variables

Table 5:3. Zero-order Correlations (Pearson's *r*) for study variables.

	1	2	3	4	5	6	7	8	9	10
1- Callous-Unemotional Traits	-									
2- Antisocial Behaviour	.42***	-								
3- Withdrawn	.11*	.06	-							
4- Somatic Complaints	.10	.21***	.43***	-						
5- Anxious/Depressed	.03	.19***	.60***	.41***	-					
6- Social Problems	.12*	.16**	.57***	.40***	.75***	-				
7- Thought Problems	-.01	.09	.65***	.48***	.63***	.58***	-			
8- Attention Problems	.42***	.42***	.37***	.40***	.47***	.47***	.43***	-		
9- Rule-Breaking Behaviour	.34***	.42***	.45***	.54***	.40***	.48***	.46***	.46***	-	
10- Aggressive Behaviour	.24***	.38***	.54***	.55***	.47***	.52***	.60***	.55***	.74***	-

Notes. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 4:4 Regression analysis YSR

Dependent Variable	Independent Variables					R^2	F
	Gender	Age	Setting clinical or community	CU Traits	Antisocial Behaviours		
Withdrawn	.10	.11	.10	.13* (a)	.05	.04	(5,307)=2.288*
Somatic Complaints	.21***	.09	.31***	.10	.34***	.14	(5,313)=11.073***
Anxious/Depressed	-.04	.16*	.14	-.05 (b)	.28***	.06	(5,313)=4.628***
Social Problems	-.01	.09	.11	.08 (c)	.18*	.04	(5,315)=2.509*
Thought Problems	-.01	-.02	.33***	-.02 (d)	.30***	.08	(5,315)=5.280***
Attention Problems	-.004	-.01	.11	.30*** (e)	.37***	.26	(5,315)=21.406***
Rule-Breaking Behaviour	.16*	.11*	.24***	.24*** (f)	.45***	.27	(5,306)=22.486***
Aggressive Behaviour	.22***	.09	.36***	.18*** (g)	.51***	.23	(5,309)=24.603***

Notes. * $p < .05$; *** $p < .001$.

(a) There was a near significant three-way interaction between CU traits, Antisocial Behaviour and Setting: $\Delta R^2 = .01$, $p = .055$; F (9,307) = 5.025, $p < .001$; $\beta = -.17$, $p = .055$.

(b) There was a significant three-way interaction between CU traits, Antisocial Behaviour and Setting: $\Delta R^2 = .03$, $p < .001$; F (9,313) = 7.499, $p < .001$; $\beta = -.28$, $p < .001$.

(c) There was a significant three-way interaction between CU traits, Antisocial Behaviour and Setting: $\Delta R^2 = .02$, $p < .01$; F (9,315) = 6.937, $p < .001$; $\beta = -.23$, $p < .01$.

(d) There was a significant three-way interaction between CU traits, Antisocial Behaviour and Setting: $\Delta R^2 = .01$, $p < .05$; F (9,315) = 12.723, $p < .001$; $\beta = -.17$, $p < .05$.

(e) There was a significant three-way interaction between CU traits, Antisocial Behaviour and Setting: $\Delta R^2 = .02$, $p < .01$; F (9,315) = 15.873, $p < .001$; $\beta = -.20$, $p < .01$.

(f) There was a significant two-way interaction between CU traits and Antisocial Behaviour: ($\Delta R^2 = .01$, $p < .05$; F (6,306) = 19.984, $p < .001$; $\beta = .13$, $p < .05$.

(g) There was a significant three-way interaction between CU traits, Antisocial Behaviour and Setting l: $\Delta R^2 = .02$, $p < .01$; F (9,309) = 22.925, $p < .001$; $\beta = -.21$, $p < .01$.

4.6.3. Withdrawn.

CU traits was weakly and positively associated to withdrawn in the full sample (β = .13, p < .05). Nevertheless, a near significant three-way interaction term between CU traits, antisocial behaviours and type of school (ΔR2 = .01, p = .055; F (9,307) = 5.025, p < .001; β = -.17, p = .055) qualified this association: specifically, the two-way interaction term between CU traits and antisocial behaviours was significant in students from clinical sample (ΔR2 = .09, p < .01. F (5,79) = 3.468, p < .01; β = .32, p < .01) but not in students from community setting (ΔR2 = .001, p > .05; F (5,227) = 5.633, p < .01; β = .001, p > .05). As reported in Figure 4:1, in students from clinical setting CU traits were not associated to anxious and depressed symptoms at high levels of co-occurring antisocial behaviours (β = .14, p > .05), whereas CU traits were significantly and negatively associated to anxious and depressed symptoms at low levels of co-occurring antisocial behaviours (β = -.37, p < .05).

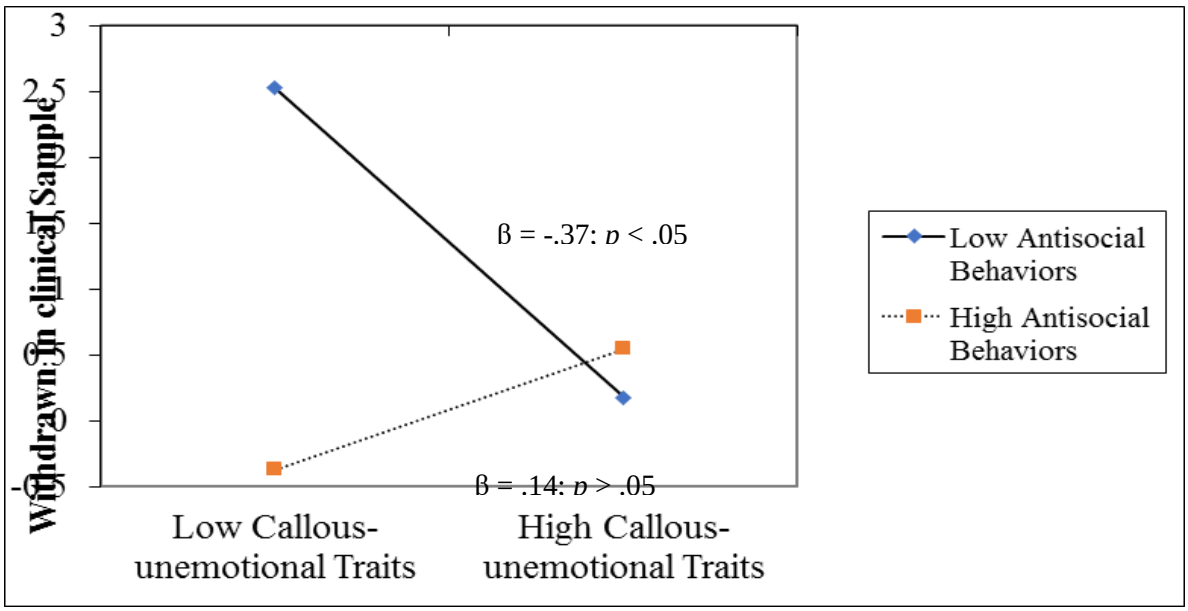

Figure 4:1 Interaction withdrawn clinical and CU traits.

4.6.4. Somatic Complaints.

Higher levels of antisocial behaviours were more likely to be positively associated to somatic complaints (β = .34, $p < .001$) in the full sample. Neither two-way nor three-way interaction terms involving the synergic role of CU traits and antisocial behaviours emerged.

4.6.5. Anxious and Depressed Symptoms.

Antisocial behaviours were positively associated to anxious and depressed symptomatology in the full sample (β = .28, $p < .001$). Moreover, a significant three-way interaction term between CU traits, antisocial behaviours and type of setting – clinical or community ($\Delta R^2 = .03$, $p < .001$; F (9,313) = 7.499, $p < .001$; β = -.28, $p < .001$) emerged: specifically, the two-way interaction term between CU traits and antisocial behaviours was significant in student from clinical samples ($\Delta R^2 = .30$, $p < .001$; F (5,89) = 10.347, $p < .001$; β = .57, $p < .001$) but not in students from community setting ($\Delta R^2 = .001$, $p > .05$; F (5,223) = 4.474, $p < .001$; β = -.03, $p > .05$). As reported in Figure 4:2, in students from clinical setting CU traits were positively associated to anxious and depressed symptoms at high levels of co-occurring antisocial behaviours (β = .22, $p < .05$), whereas CU traits were more strongly and negatively associated to anxious and depressed symptoms at low levels of co-occurring antisocial behaviours (β = -.66, $p < .001$).

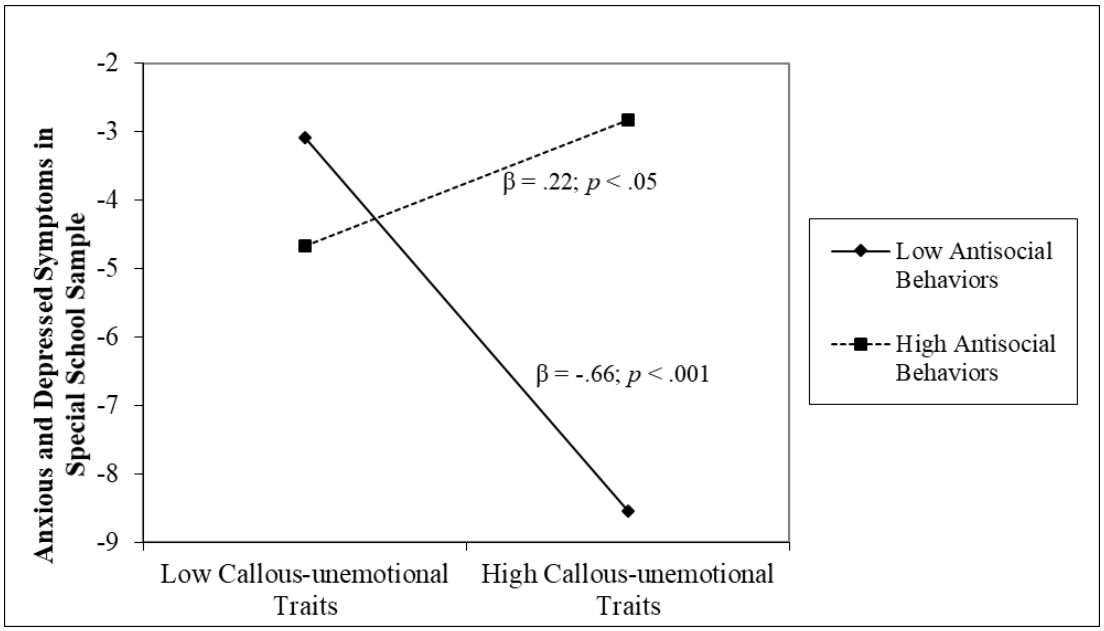

Figure 4:2 Anxious/depressed symptoms interaction with CU traits in clinical sample

4.6.6. Social Problems.

Antisocial behaviours were positively associated to social problems in the full sample (β = .18, $p < .05$). Once again, a significant three-way interaction term between CU traits, antisocial behaviours and type of setting ($\Delta R^2 = .02$, $p < .01$; F (9,315) = 6.937, $p < .001$; β = -.23, $p < .01$) emerged: the two-way interaction term between CU traits and antisocial behaviours was significant in students from clinical setting ($\Delta R^2 = .34$, $p < .001$. F (5,89) = 11.258, $p < .001$; β = .61, $p < .001$) but not in students from community setting ($\Delta R^2 = .002$, $p > .05$; F (5,225) = 2.495, $p < .05$; β = .05, $p > .05$). As we can see in Figure 4:3, in students from clinical setting CU

traits were positively associated to anxious and depressed symptoms at high levels of co-occurring antisocial behaviours (β = .32, $p < .01$), whereas CU traits were more strongly and negatively associated to anxious and depressed symptoms at low levels of co-occurring antisocial behaviours (β = -.63, $p < .001$).

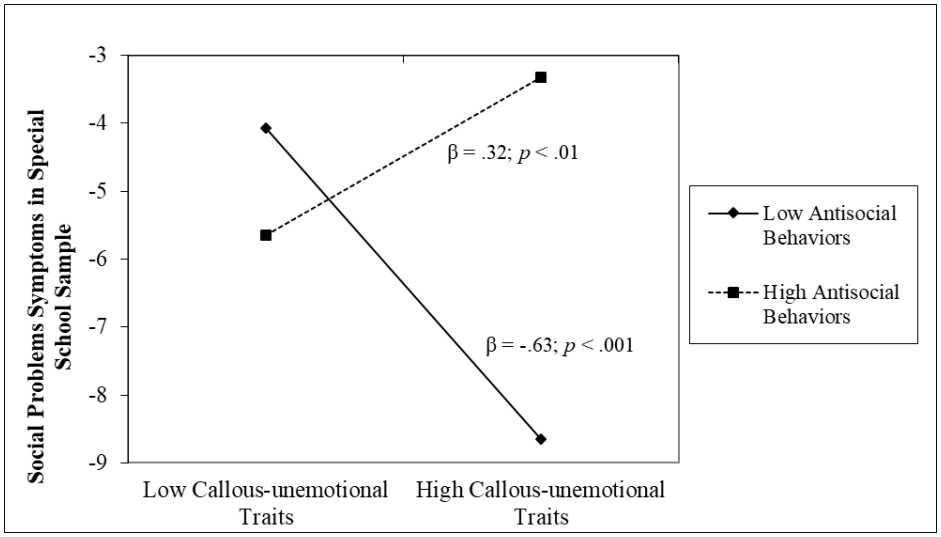

Figure 4:3 social problems interaction with CU traits in clinical sample

4.6.7. Thought Problems.

Antisocial behaviours were significantly and positively associated to thought problems (β = .30, $p < .001$) in the full sample. Moreover, there was a significant three-way interaction term between CU traits, antisocial behaviours and type of setting ($\Delta R^2 = .01$, $p < .05$; F (9,315) = 12.723, $p < .001$; β = -.17, $p < .05$): the two-way interaction term between CU traits and antisocial behaviours was significant in students from clinical setting ($\Delta R^2 = .39$, $p < .001$. F (5,89) = 12.932, $p < .001$; β = .65, $p < .001$) but not in students from community setting ($\Delta R^2 = .003$, $p > .05$; F (5,225) = 11.524, $p < .001$; β = .07, $p > .05$). As shown in Figure 4:4, in students from clinical samples CU traits were unrelated to thought problems at high levels of

co-occurring antisocial behaviours (β = .14, $p > .05$), whereas CU traits were strongly and negatively associated to thought problems at low levels of co-occurring antisocial behaviours (β = -.86, $p < .001$).

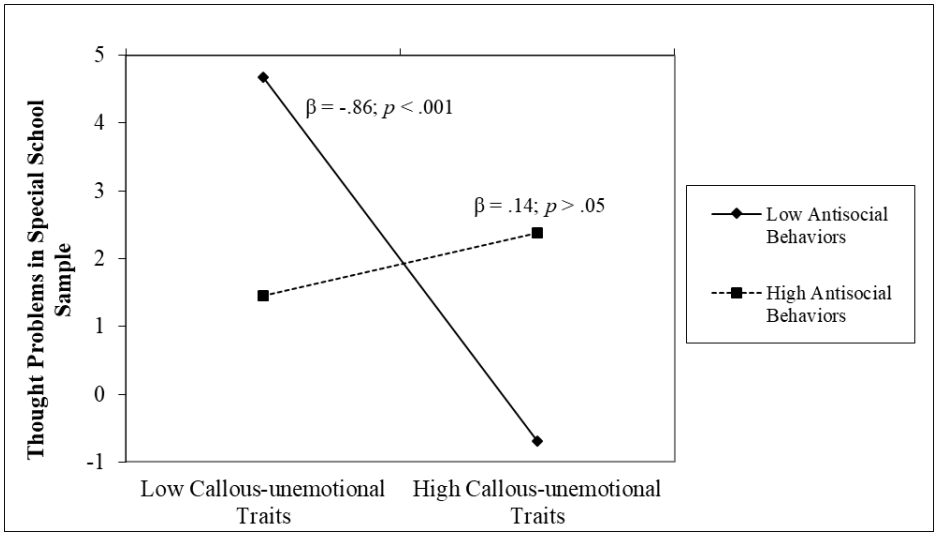

Figure 4:4 Thought problems interaction with CU traits in clinical sample

4.6.8. Attention Problems.

Both CU traits (β = .30, $p < .001$) and antisocial behaviours (β = .37, $p < .001$) were uniquely and positively associated attention problems in the full sample. Moreover, there was a significant three-way interaction term between CU traits, antisocial behaviours and type of setting ($\Delta R^2 = .02$, $p < .01$; F (9,315) = 15.873, $p < .001$; β = -.20, $p < .01$): the two-way interaction term between CU traits and antisocial behaviours was significant in student from clinical setting ($\Delta R^2 = .10$, $p < .001$; F (5,89) = 7.500, $p < .001$; β = .33, $p < .001$) but not in students from community setting ($\Delta R^2 = .01$, $p > .05$; F (5,225) = 20.012, $p < .001$; β = -.08, $p > .05$). As shown in Figure 4:5, in students from clinical setting CU traits were positively

associated to attention problems at high levels of co-occurring antisocial behaviours (β = .60, $p < .001$), whereas CU traits were not associated to attention problems at low levels of co-occurring antisocial behaviours (β = -.08, $p > .05$).

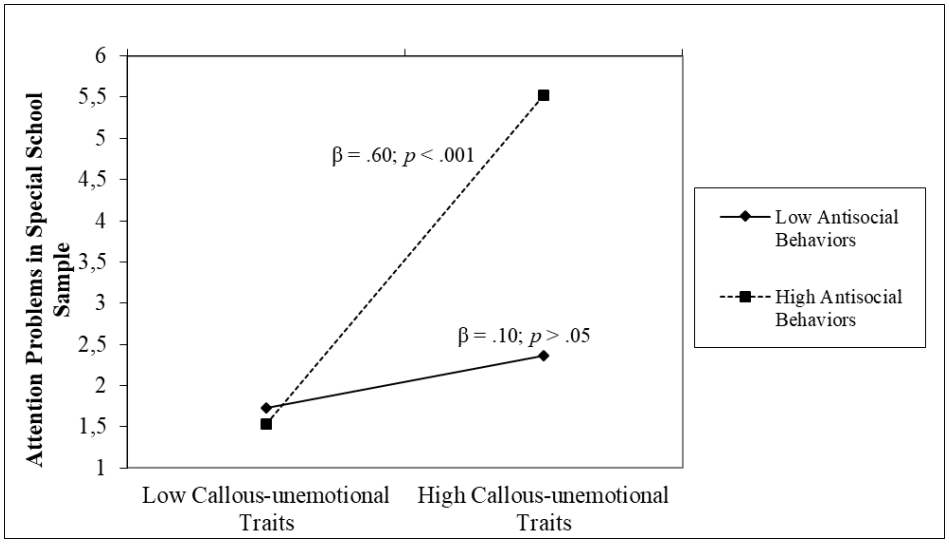

Figure 4:5 Attention problems interaction with CU traits in clinical sample

4.6.9. Rule-Breaking Behaviour.

CU traits (β = .24, $p < .001$) and antisocial behaviours (β = .45, $p < .001$) were uniquely and positively associated to rule-breaking behaviour in the full sample. Nevertheless, these relations were qualified by a significant two-way interaction term between CU traits and antisocial behaviours ($\Delta R^2 = .01$, $p < .05$; F (6,306) = 19.984, $p < .001$; β = .13, $p < .05$). As reported in Figure 4:6, CU traits were significantly and positively associated to rule-breaking behaviour at high levels of co-occurring antisocial behaviours (β = .34, $p < .001$), whereas CU traits were not

associated to rule-breaking behaviour at low levels of co-occurring antisocial behaviours (β = .12, p > .05).

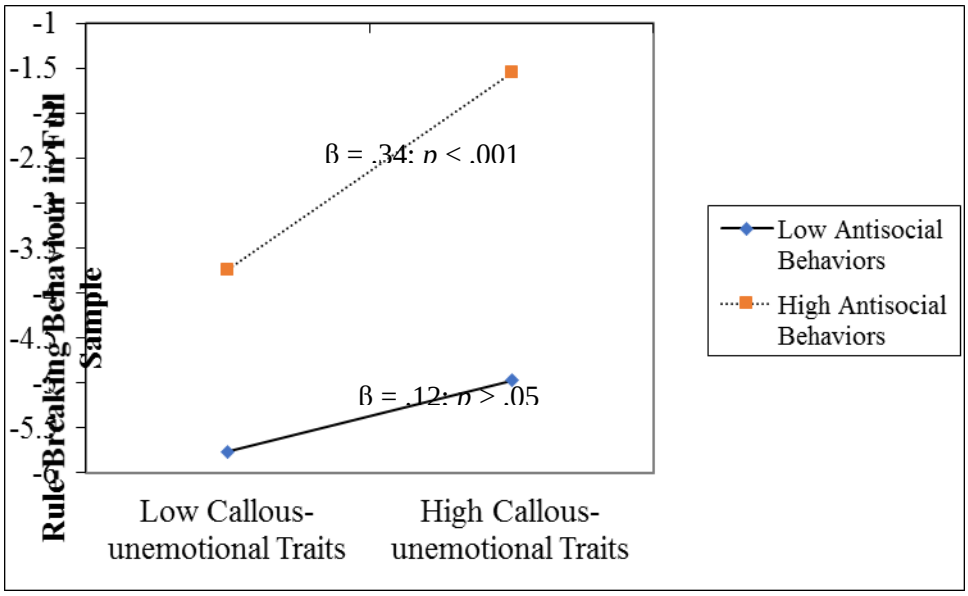

Figure 4:6 rule breaking interaction with CU traits in full sample

4.6.10. Aggressive Behaviour.

CU traits (β = .18, p < .001) and antisocial behaviours (β = .51, p < .001) were uniquely and positively associated to aggressive behaviour in the full sample. Moreover, there was a significant three-way interaction term between CU traits, antisocial behaviours and type of setting (ΔR^2 = .02, p < .01; F (9,309) = 22.925, p < .001; β = -.21, p < .01): the two-way interaction term between CU traits and antisocial behaviours was significant in students from clinical setting (ΔR^2 = .16, p < .001; F (5,89) = 37.515, p < .001; β = .42, p < .001) but not in students from community setting (ΔR^2 = .002, p > .05; F (5,219) = 27.952, p < .001; β = -.05, p > .05). As shown in Figure 4:7, in students from clinical setting CU traits were

positively associated to attention problems at high levels of co-occurring antisocial behaviours (β = .38, $p < .001$), whereas CU traits were negatively associated to attention problems at low levels of co-occurring antisocial behaviours (β = -.27, $p < .01$).

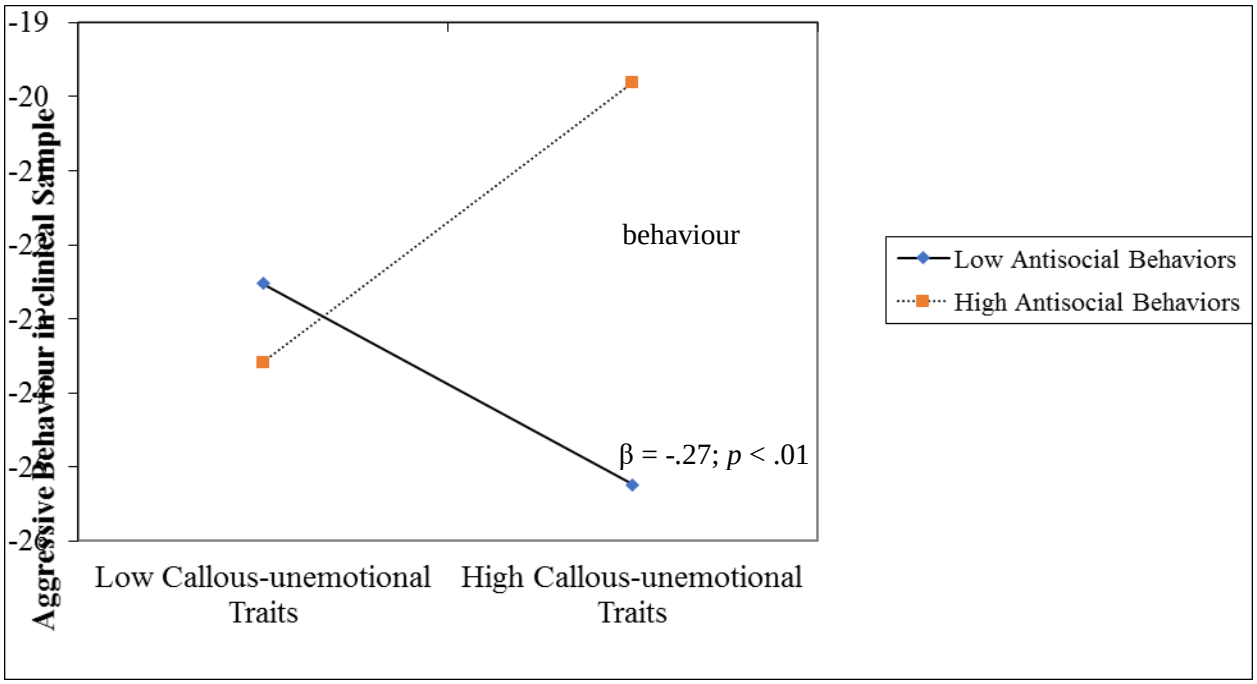

Figure 4:7 rule breaking interaction with CU traits in full sample

4.7. Discussion

4.7.1. Primary Findings

Overall the presence of CU traits in the whole sample was high with 19.5% of the adolescents scoring 32 or more on ICU, showing a medium to an elevated level of CU traits. These results are in line with previous studies by Frick et al. (2013), that the average overall prevalence for CU traits is between 10% and 50% of youth

across the community and clinic-referred samples were designated with the CU specifier (Frick & White, 2008).

In line with our hypothesis and earlier research as expected both significantly higher CU traits and behavioural problems were present in the clinical group when compared to the community sample (Fanti, et al, 2013; Kimonis, Frick, Muñoz, & Aucoin, 2008). Also, a high prevalence of Attention; rule breaking and thought problems were also significantly correlated with CU traits and behavioural problems, but once again this was higher for the clinical sample. These results highlight the particularly severe pattern of behaviour problems, not found with typical levels of CU traits (Frick et al. 2013 & 2014 a & b; Frick & White, 2008).

Our findings also showed a significant positive correlation between CU traits and withdrawn, social problems, attention problems, rule-breaking behaviour and aggressive behaviour; thus, as CU traits went up so did the associated distinct cognitive and affective characteristics suggesting that adolescents with these traits have different causal factors leading to their behaviour problems, compared to other youths with behavioural issues only (Frick & Loney,1999; Frick & White, 2008).

Antisocial behaviours (conduct problems) alone were associated with somatic complaints; anxious and depressed symptoms in line with internalising behaviours and only with the more externalising behaviours such as aggression, delinquency, social problems; attention problems and rule-breaking behaviours (Essau, Sasagawa, & Frick, 2006a; Kimonis, Frick, & Barry, 2004; Lawing, et al, 2010). Interestingly significant associations were found between empathy and positive affect, whereas previous research found these associations with CU traits alone (Essau, Sasagawa, &

Frick, 2006b; Kimonis, Frick, Skeem, Marsee, Cruise, Munoz, & Morris, 2008b; Lawing, et al, 2010), so as antisocial type behaviours increased so they did also. Moreover, as expected CU traits and antisocial behaviours were significantly positively correlated, so as CU traits increased so did antisocial behaviours and vice versa (Essau, Sasagawa, & Frick, 2006a).

To explore these results further analysis was conducted that revealed a significant three-way interaction between Somatic complaints; anxious/depressed; social problems; thought problems; attention problems; rule-breaking behaviours; aggressive behaviours CU traits and behavioural problems. This is line with previous research by Dadds, Fraser, Frost, and Hawes (2005), which highlights the complexity of the two-way interaction between CU traits and Behavioural problems that varies across levels of the third variable which is made up of internalising (Somatic complaints; anxious/depressed; social problems; thought problems; attention problems) and externalising (rule breaking; aggressive behaviours), (Essau, Sasagawa, & Frick, 2006a; Kimonis et al., 2006; Lawing, et al, 2010).

Among participants in the clinical setting, CU traits were associated with variables at elevated levels of co-occurring antisocial behaviours, whereas CU traits were significantly and negatively associated to them at low levels of co-occurring antisocial behaviours (Essau, Sasagawa, & Frick, 2006b).

These results show the presence of two distinct forms of CU traits both those with (1) high CU traits and high behavioural problems and (2) those with high CU traits but none or low levels of behavioural problems. This would be in line with earlier research whereby the first group would be a more aggressive and overall problematic

youth. Here the CU traits represent a high-risk group of antisocial youth with a particularly severe pattern of behaviour problems, not found with typical levels of CU traits in line with previous research by Frick et al., (2013) and Frick and White., (2008) and the second more in line with successful psychopathy and with the differential-configuration model, which states that successful psychopathy is a different configuration of personality traits (which include boldness and conscientiousness) than in unsuccessful psychopathy. This model presumes that psychopathy is a combination of two or more distinct traits rather than one construct and that successful and unsuccessful psychopathy differs in their individual traits, this seems to be in line with the findings in the present study (Viding and McCrory, 2012).

4.7.2. Unexpected Findings

A more interesting finding of this study was the question of why the hypothesised associations emerged only in the clinical sample; whereby elevated levels of CU traits in the context of low levels of co-occurring antisocial behaviours are associated to lower levels of psychopathological problems. These findings could relate to the clinical sample having higher levels overall of antisocial behaviour and CU traits and so both are more pronounced leading to easier separation of any other comorbid personality traits or other factors. Further investigation is needed relating to other literature that may show comparable results to try to find A few common features, (Essau, Sasagawa, & Frick, 2006a).

4.7.3. Limitations and Future Recommendations

These findings should be evaluated in the context of the study's limitations. As with any study, its findings may be measurement-specific, and replication is needed. This means that any comparisons are problematic, a future study could look at the separation of the factors to enable clearer comparisons between diagnostic measures and general measures to enable earlier identification of the (1) high CU traits and high behavioural problems and (2) those with high CU traits but none or low levels of behavioural problems.

Measurements included the use of self-reports from adolescents. Thus, future studies should include parental reports and observational data there could be a more complete picture of the complex multifaceted interaction between high and low CU traits and antisocial behaviour and different co-morbid features. A further limitation that has been found in the literature is the lack of successful Psychopathy research which is an emerging and intriguing concept. To address this concern, the current study was conducted on a sound theoretical basis, grounded in earlier studies but considering the recent changes in the classification of Behaviour Problems in and looking at other compound variables. Given the significance assigned to low problem behaviour prevalence and high CU traits and high problem behaviour and high CU traits from the findings of this study, it is vitally important to assess in future studies.

4.8. Conclusion

In general, our findings supported a higher prevalence of behaviour problems and CU traits in the clinical when compared to the community sample. In addition, the

findings highlight, that the role of both high CU and low CU traits combined with antisocial behaviour presence or not is complex.

From an applied perspective, the findings from this study, deliver both significant and positive implications for both the literature and community and clinical samples. Further, these findings have implications in the health sector and the education sector due to the expected positive outcome of the low-cost, preventative intervention that will be developed from these findings; therefore, further exploration is called for.

EXECUTIVE FUNCTIONING AND BEHAVIOURAL PROBLEMS (STUDY 3)

5.1. Overview

The aim of this study was to examine the association between executive functioning; impulsivity and behavioural problems, an experimental design using two standardised tasks were conducted. These tasks were: The "Balloon Analogue Risk Task (BART-Y; Lejuez et al., 2002) measured behavioural risk-taking and the Child IAT task measured cognitive shift (Greenwald, McGhee & Schwartz, 1998) as well as various self-report questionnaires as comparative measures.

5.1.1. Cognitive risk factors of conduct disorder

Children and adolescents with conduct problems are shown to consistently have poor test results for executive functions (Ishikawa & Raine, 2003; Lynam & Henry, 2001; Moffitt 1993; Nigg, 2000; Hobson, Scott, & Rubia, 2011).

5.1.2. Executive functioning

Executive functioning (EF) makeup of the skills that have been highlighted as required to lead to the achievement of goals through using the correct and effective

actions. On a more detailed level the skills include: learning and then applying specific contingency rules, the ability to perform abstract reasoning and/or problem-solving, sustained attention and concentration, the ability to relate passed actions to possible future goals, self-monitoring to enable inhibition of inappropriate responses (Weyandt, 2006; Weyandt, 2010).

The concepts of EF are defined using three different approaches (Zelazo, Müller, Frye, & Marcovitch, 2003).

EF is a higher-order cognitive mechanism or ability, a unitary mechanism responsible for all processes involving in attentional control however the idea of a solitary executive entity has been challenged for missing specificity (Baddeley, 1998).

EF is unravelled using neuropsychological tests and factor analysis but does not try to understand underlying cognitive processes, and criticism of this was why to understand and explain the structure of executive functioning without knowing more about these processes. Without understanding the underlying processes, it is confusing what the different labels derived from factor analysis, can offer to the understanding of the structure of executive functioning (Zelazo et al., 2003).

EF is seen as a functional construct. explained by hypotheses concerning the role of basal cognitive processes in EF i.e. attention, perception, memory, and action monitoring (Miyake, Friedman, Emerson, Witzki, Howerter, & Wager, 2000). EF is, therefore, a multidimensional (Lehto, Juujärvi, Kooistra & Pulkkinen, 2003), rather than a one-dimensional construct, where well-defined measures of specific aspects of

executive functioning and the way they interact are developed (Riccio, Lockwood Hewitt, & Blake, 2011; Zelazo et al., 2003).

The multifaceted over the unitary model of EF has been supported by behavioural studies who used a set of standard EF tasks. Working memory, shift and response inhibition are the three correlated components of EF, which are also separate constructs, that contribute differently to performance on complex executive tasks (Miyake et al., 2000).

Contrary to the multifaceted model of EF, other research studies found both multidimensional and simple unitary structures (Huizinga & Smidts, 2011; Wiebe, Espy, & Charak, 2008). Huizinga, Dolan, & van der Molan (2006) found only two latent variables, Working Memory and Shifting, as well as three manifest Inhibition variables and one control factor (processing speed) they also confirmed a continuation of the development of executive functioning into adolescence (Vriezen, & Pigott, 2002). For this study EF will be viewed as a multifaceted construct including processes that are necessary for purposeful, efficient, and adaptive (social) behaviour, fulfilling a role that is essential in everyday behaviour (Huizinga & Smidts, 2011).

Table. 5:1 shows the type of executive function and a description of what this function does and signs or symptoms of dysfunction in this area. As shown in earlier studies, children and adolescents with behaviour problems are reported to consistently have executive deficits (Ishikawa & Raine, 2003; Lynam & Henry, 2001; Moffitt 1993; Nigg, 2000; Hobson et al, 2011). For example, Séguin, Boulerice, Harden, Tremblay and Pihl, (1999) showed lower scores on tests for

executive functions were associated with chronic aggression even after controlling for general memory, (Schmeichel, 2007), IQ, and ADHD.

Table 5:1 Summary of Executive function, description, and possible signs/symptoms of executive dysfunction (Packer, 2016)

Executive Function	Description	Possible Signs or Symptoms of executive Dysfunction
-	Identify goal or set goal.	Acts as if "future-blind" (Barkley, 2001), i.e. not working towards the future.
Plan	Develop steps towards goal, identify materials needed, set completion date.	– May start project without necessary materials – May not leave enough time to complete – May not make plans for the weekend with peers
Sequence	Arrange (and enact) steps in proper order spatially or temporally.	– May skip steps in multi-step task – May have difficulty relating story chronologically – May "jump the gun" socially
Prioritise	Establish ranking of needs or tasks.	– May waste time doing small project and do not do big project – May have difficulty identifying what material to record in notetaking
Organise	Obtain and keep necessary materials and aids to completing sequence and achieving goal.	– May lose important papers or possessions – May fail to turn in completed work -May create unrealistic schedule
Initiate	Begin or start task.	Difficulty getting started on tasks may appear as oppositional behaviour

Inhibit	Stop oneself from responding to distractors. Delay gratification in service of more important, long-term goal.	– May appear distractible and/or impulsive – May pick smaller, immediate reward over larger, delayed reward
Pace	Establish and adjust work or production rate so that goal is met by specified completion time or date.	May run out of time
Shift	Move from one task to another smoothly and quickly. Respond to feedback by adjusting plan or steps.	May have difficulty making transitions and/or coping with unforeseen events
Self-Monitor	Assessing one's performance and progress towards goal.	– Does not check to ensure that each step is completed – Does not check pace to determine if goal will be met on time, – Does not check work before sending it
Emotional Control	Regulating and modulating responses to situations.	May show inappropriate or over-reactive response to situations
Complete	Reaching the self-set or other-set goal.	May start tasks but not finish them

The area of the brain responsible for executive function is the prefrontal cortex, which is immature throughout childhood, with its development thought to be a prolonged process that continues to at least early adolescence (Pennington & Ozonoff, 1996). Therefore, a comparison between behaviour problems in pre-school children and then later in adolescence against executive functions is problematic due to these developmental changes in this part of the brain until early adolescence (Anderson 2002).

Therefore, to summarise EF is a multidimensional construct covering higher-order cognitive processes that are used to regulate a person's behaviour and thoughts, and to act in a goal-directed manner. EF is the control centre, managing the self-control and self-regulation functions of the brain, these functions include selective attention, decision making, voluntary response inhibition, task switching and working memory (Herba, Tranah, Rubia, & Yule, 2010; Blakemore & Choudhury, 2006; Vriezen & Pigott, 2002). EF includes both cognitive and emotional components and noticeable behaviours (Zelazo, Müller, Frye, & Marcovitch, 2003).

5.1.3. Cognitive shift

A cognitive shift can be measured through a level of mental operation such as unconscious, intuitive, implicit, impulsive, automatic, etc, (Sriram & Greenwald, 2009). Research has shown indications that impairment in cognitive shifting may be associated with behaviour problems (Visser, Berger, Van Schrojenstein Lantman-De Valk, Prins, & Teunisse, 2015), as well as the number and the severity of violent offences in adolescent and adult delinquents (Hancock ,Tapscott, & Hoaken, 2010; Pihet, Combremont Suter, & Stephan, 2012). These findings suggest that a rigid cognitive style may lead to aggression in challenging situations.

5.1.4. Executive dysfunction and aggressive behaviour

Deficits in EF which include impulsivity, low self-regulation, poor problem solving skills, poor metacognition, and the inability to delay gratification are related to both antisocial and aggressive behaviour (Riccio, et al., 2011; Séguin & Zelazo, 2005; Coolidge, DenBoer & Segal, 2004; Hoaken, Shaughnessy & Pihl, 2003). Although

most studies of executive deficits involve adolescents, it is worth noting that such deficits have also been linked with disruptive behaviours in preschool children (Hughes, Dunn, & White, 1998).

ED is often seen as a risk factor for the development of antisocial behaviour in children and adolescents (Raine, 2002a). Elevated levels of reactive aggression are correlated to difficulties in for example inhibition (Ellis, Weiss, & Lochman, 2009). Research into Hot executive functions (self-management skills used in situations where emotions run high) and Cool executive functions (skills used when emotions aren't a factor), has shown that a distinction can be made between executive tasks with or without an emotional and motivational component. Therefore, where stimuli, decisions, and outcomes are motivationally salient to the person making them are called 'hot executive functioning tasks' and abstract or decontextualized tasks which don't have a significant affective or motivational component are known as 'cold executive functioning tasks' (Prencipe, Kesek, Cohen, Lamm, Lewis, & Zelazo., 2011). Theoretical models link inhibition to four executive neuropsychological functions that depend on it for effective functioning: working memory, self-regulation of affect-motivation-arousal, internalisation of speech, and reconstitution (behavioural analysis/synthesis). These four functions bring behaviour under the control of internally represented information and self-directed actions, allowing greater goal-directed action/task persistence. executive inhibition is often viewed as one of the types of executive functions, the other functions are planning, persistence, mental flexibility and working memory Barkley, 1997a; Lezak, 1993; Welsh, 2002).

Executive inhibition can be further explained in terms of the Behavioural Inhibition System (BIS) which inhibits behaviour in response to cues of punishment or non-reward (See Figure 5:1). Therefore, those with an overactive BIS are inhibited and anxiety prone and those with an underactive BIS are sensitive to punishment. Conversely, the Behavioural Activation System (BAS) is activated by cues of reward or non-punishment, therefore an underactive BAS in approach or active avoidant behaviour and an overactive BAS in impulsivity. Individuals primarily need a balance between BIS and BAS functioning for optimal functioning (Van Goozen, Snoek, Matthys, Van Rossum, & Van Engeland, 2004). Reactive (RA) and proactive aggressive (PA) are shown to have differences between BIS and BAS functioning, as distinct functions are the underlying cause of aggressive behaviour. Therefore, RA is related to more impulsivity (an overactive BAS), while PA which is more planned (an overactive BIS).

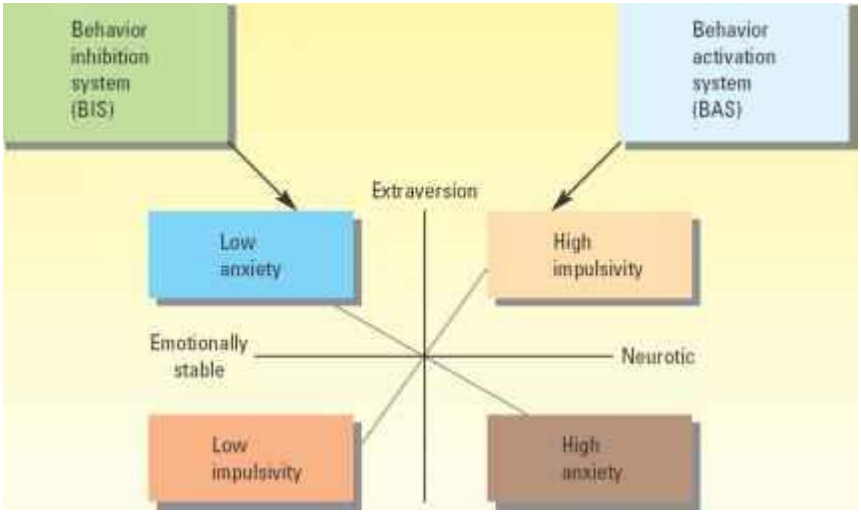

Figure 5:1 Behavioural Inhibition & activation system (Gray, 1994)

Research looking at differences in EF found mainly reactive aggression to be related to EF deficits in response inhibition and planning due to emotion-regulatory difficulties (Ellis, Weiss, & Lochman, 2009) and proactive aggressive showed links in a smaller number of studies between deficits in EF and psychopathic traits (e.g. Sadeh & Verona, 2008).

The brain areas of the frontal and prefrontal cortices are thought to be primarily responsible for the prolonged developmental course of EF, with finetuning and integration of components continuing during late adolescence, the maturation of the anterior cingulate cortex is also associated with EF changes between early and late adolescence (Huizinga, & Smidts, 2011; Crone, 2009; Vriezen & Pigott, 2002). Therefore, the area of the brain largely but not completely responsible for these mental functions are the frontal lobes (Pennington & Ozonoff, 1996). The orbitofrontal and ventromedial prefrontal dysfunction, as well as the anterior cingulate cortex, amygdala, and interconnected regions, have been shown as both structural and functional abnormalities in antisocial populations (Riccio, et al., 2011; Blair et al., 2005; Raine, 2002a; Davidson, Jackson & Kalin, 2000).

EF starts to develop around the end of infancy and continues during school age to the transition in adolescence with changes in cognitive, -emotional, and social behaviours related to brain development in the frontal and prefrontal functioning influence the cognitive and social domains. Structural changes in the adolescent frontal cortex lead to improvements in inhibitory control, working memory, and decision making that is age specific (Hughes, et al, 1998). One prominent element of

EF in adolescence is Impulsivity that is a key risk factor often correlated with behaviour problems.

5.1.5. Impulsivity

To act and behave in a spontaneously way that has no consideration of the consequences; forethought and reflection are considered as the multifaceted construct of impulsivity, an element of executive function. These types of actions are risky; inappropriate in the situation they are expressed and in a premature manner, often leading to unwanted consequences which hinder the success of achieving long term goals over short term gains. Conversely, when these actions result in a positive outcome they are not seen as impulsive but instead as courageous; spontaneous; bold; quick; courageous or unconventional. Therefore, impulsivity is made up of two constructs: acting without the correct amount of deliberation which could or not be functional and choosing short term goals over long term ones (Carroll, Hemingway, Bower, Ashman, Houghton, & Durkin, 2016).

Chronic aggression was associated with lower scores on tests tapping executive functions of the frontal brain region, and the findings held after controlling for general memory, IQ, and ADHD. Although most studies of executive deficits involve adolescents, such deficits have also been linked with disruptive behaviours in preschool children (Hughes et al, 1998). However, the area of the brain seen as mainly responsible for executive function is the pre-frontal cortex, which is immature throughout childhood, with its development thought to be a prolonged process that continues to at least early adolescence (Anderson 2002). The

development of EF and aggression are linked with social interactions and the ability to process this information to enable adequate control of emotions.

5.2. Rationale, Aims and Research Questions

The overall aim of this study is to look at behavioural problems both with and without the presence of Callous-Unemotional (CU) traits and identify any relevant executive functioning factors (e.g.: risk-taking type; cognitive flexibility etc), among adolescents in clinical and community samples. This research will help further inform the development of a transdiagnostic intervention programme and ensure any difficulties in executive function in gar identified to inform the programme and establish the success of the programme to deal with these issues or if further adaptions are required.

The more specific research questions are addressed by this study:

- How does executive functioning (Impulsivity level) in adolescents in clinical and community relate to problem behaviour; CU traits and other measures such as drug use?

- How are executive functions correlated with behaviour problems (YI), and components of behavioural problems such as impulsivity, hostile bias etc).

5.3. Methods

5.3.1. Participants

A subset of 27 participants was recruited from the total sample (N = 318) that took part in study Studies 1, 2 and 4, (chapters 3:4 & 6) from both clinical and community settings. Detailed outline of how all these participants were sampled and demographics are found in chapter 2, section 2.4.

The participants (N = 27) ranged in age from 11 to 17 years (M=12 years; SD=1.07), and the sample was diverse, all students for whom English was their native language were eligible to participate.

5.4. Procedure

This research was approved by the University of Roehampton's Ethics Committee. Further information about consent procedures and ethical considerations were described in chapter 2, Section 2.4.

5.4.1. Instruments

Detailed outline of the self-report questionnaires measures used in this study are found in in chapter 2, section 2.5.

5.4.2. Experimental Measures

A brief summary of the experimental measures (tasks) is below detailed descriptions found in are in in chapter 2, section 2.6.

The Balloon Analogue Risk Task (BART-Y; Lejuez et al., 2002 & 2003). The BART-Y was used to measure risk-taking behaviour.

Child IAT task was used to measure cognitive shift (Greenwald, McGhee& Schwartz, 1998).

5.5. Results

Descriptive statistics were calculated for all participants (both in the community and clinical groups) to evaluate the prevalence of executive functioning; impulsivity and ASB (behavioural problems), total scores of the Impulsivity element of BSC; and YSR (ASB). Also, the experimental tasks RT scores were used to obtain total scores of executive functioning problems. These scores were used to explore the prevalence of impulsivity; executive functioning and ASB (behavioural problems among the population and specifically by sample (clinical or community) and with the presence of callous unemotional (CU) traits.

Using a Chi-Square cross tabulation as a joint frequency distribution of cases based on grouping the types to assess for significance. A series of correlational analyses were also conducted to examine the relationship between behavioural (ASB and Impulsivity) and CU traits, EF measures and other scales across distinct groups.

5.5.1. Preliminary analysis and findings

All the scales/experimental tasks presented show a moderate range for reliability, see method chapter 4 for more information.

5.5.2. Descriptive Statistics – BART-Y

The total sample mean for the impulsivity element of the self-control scale was 66.9 (SD = 10.0), with clinical (M = 70.3, SD = 8.5) and community (M = 65.8, SD = 10.3) not differing significantly in self-reported impulsivity.

5.5.3. Hypothesis 1 results

- How does executive functioning (Impulsivity level) in adolescents in clinical and community relate to behaviour problems, CU traits and other measures such as drug use?

5.5.4. BART-Y presentation.

The mean number of adjusted balloon pumps on the BART-Y for the whole sample was 35.0 (SD = 12.3). Overall, there was a tendency for clinical (M = 41.7, SD = 13.2) to accumulate a larger number of balloon pumps than the community (M=31.7, SD=11.8), $F(1,27) = 3.8$, $p=.06$, $\eta 2 =.05$. The mean number of balloon explosions for the whole sample was 9.6 (SD=4.3). However, clinical (M=11.1, SD= 4.3) and community (M=9.3 SD=4.2) did not differ significantly in the number of times the balloon exploded, $F(1,27) = 2.3$, $p = .11$, $\eta 2 = .04$. The number of times the balloon exploded is used as an indicator of impulsivity.

5.5.5. IAT (child task) – Testing cognitive shift.

Trials with latencies below 300 ms (.5%) and above 3000 ms (.5 were excluded from the analyses. Incorrect trial responses were excluded from analyses of latency data = 9.7% Calculation of Mean latencies and error proportions were conducted for each participant in each of the 2 x 2 x 2 within-participants conditions. Mean latencies and error proportions were inspected by repeated measures ANOVAS with order Table 2. Mean latencies in milliseconds as a function of mapping compatibility, response-stimulus interval, and the trial-sequence factors in Experiment I of mapping conditions (compatible vs. incompatible condition first) and response-stimulus interval (100 ms vs. 1000 ms) as between-participants factors. Within-participants factors were mapping condition (compatible vs. in-compatible picture sequence), response repetition (repetition of response to pictures vs. switch of response to pictures between trial n and trial n-l), and task repetition of picture sequence (repetition of picture sequence task vs. switch of picture sequence task between trial n and trial n-l). The mean un-transformed latencies are depicted in Table 5:2.

Table 5:2 Mean latencies in milliseconds mapping compatibility response stimulus interval & the trial sequence factors

	Task Switch		No task switch	
	response switch	response repetition	response switch	response repetition
RSI 100ms				
compatible	787	732	758	724
incompatible	1026	1042	921	809
RSI 1000ms				
compatible	655	669	692	629
incompatible	815	789	767	719

Mean response Latencies were significantly longer in the incompatible than in the compatible IAT condition, F (l, 27) 49.39, $p < .01$, showing a relative preference for flowers compared to insects. The mean aggregated latencies for the compatible and incompatible conditions were 716 ms (SD 26 ms) and 859 ms (SD 26 ms) respectively, resulting in an IAT effect of 143 ms.

The main effect of response-stimulus interval, F (l, 27) = 5.63, $p < .05$, reveals that responses were faster with long than with short RSI. The two-way interaction between task switching and response-stimulus interval, F (l, 27) = 12.57, $p < .01$, shows that this effect was more pronounced for the task switch trials. Therefore, specific task switch cost was reduced under long RS pronounced for the task switch trails.

Table 5:3 Compatible pairings correct answers by setting

Executive functioning	Clinical	Community
IAT in-compatible test correct answers	29.4%	70.6%

Table 5:3 shows the percentage of correct answers by setting when the IAT trial had incompatible pairings i.e.: Insect picture paired with smiling face and hearing a nice word. These incompatible pairings require cognitive flexibility, twice the amount in the community sample had correct answers when compared to clinical.

5.5.6. Hypothesis 2

- How is executive function correlated with behaviour problems (YSR, SAHA, YI-4), and components of behavioural problems such as impulsivity, hostile bias etc).

Correlations for the experimental measures (BART-Y; IAT) and the questionnaire measures (ICU; YSR; drug use; BSC; IPAS). (see appendix 22 correlation matrix = Items highlighted in yellow show highly significant correlations $p<.01$ and items highlighted I green showing significant correlation $p<.05$).

Only Rule breaking problems were significantly positively correlated with CU traits, showing as one rose so did the other. For Setting (clinical or community) there was a positive correlation with Drug use; antisocial behaviour and Impulsivity showing a significant association to setting.

Surprisingly, drug use and antisocial behaviour and impulsivity were significantly negatively correlated showing a lower drug use with higher impulsivity and antisocial behaviour. Self-discipline and impulsive aggression as expected were significantly negatively correlated showing as impulsive aggression went up, so self-discipline went down. However surprisingly self-discipline was positively correlated with impulsivity and antisocial behaviour. IAT Mean (RT) on incompatible and compatible tasks were negatively correlated to total of correct ITA tasks only showing as the number of correct scores on compatible tasks went up so reaction time went down.

Self-discipline and drug use showed a negative correlation showing as self-discipline improved so drug use went down. impulsive aggressive acts negatively correlated with impulsivity and antisocial behaviour so as this type of aggression went up, so these behaviours went down. Finally, IAT total correct on incompatible tasks IAT1 were negatively correlated with setting (clinical or community) showing a significant difference in these scores across setting.

5.5.7. The overall frequency of level of impulsivity and low executive functioning

Descriptive statistics, median splits were conducted for all the experimental tasks and the impulsivity questionnaire measure, variables were then recoded into high or low using the median split and frequencies were run.

Frequencies were the same for all experimental measures. This shows that 51.9% of the participants seems to have executive functioning problems. Similarly, 55.6% seem to have high impulsivity.

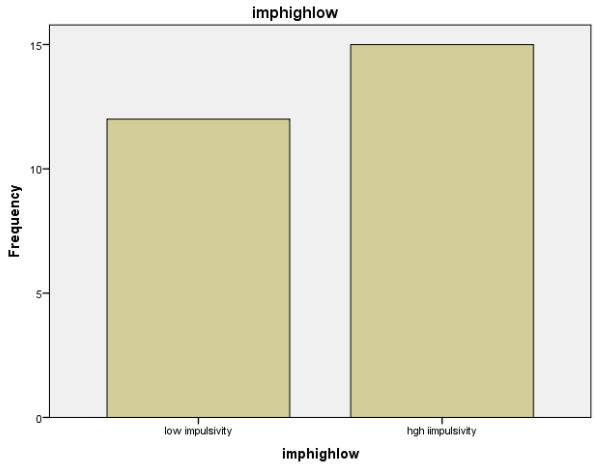

Figure 5:2 Frequency of high and low impulsivity across both settings

The above bar chart (figure 5:2) visually represents of the overall levels of high and low impulsivity in all participants (clinical and community).

5.5.8. Results for Hypothesis two. Is the frequency and severity of Behavioural problems correlated with impulsivity different in the community and clinical sample?

Analysis of the data using Chi square cross tabulation revealed that the frequency of ASB (behavioural problems) with impulsivity was significantly associated with the type of sample (clinical or community) grouping. Impulsivity: (1, N = 27) = 10.50, *p* <.01. and behavioural problems, (1, N = 27) = 19.99, *p* <.01.

Table 5:4 Percentages & numbers of low & high impulsivity across setting (clinical or community)

			Level of impulsivity		
			Low	High	Total
Setting	Clinical	N	3	13	16
		% within clinical	18.8%	81.3%	100.0%
	Community	N	9	2	11
		% within community	81.8%	18.2%	100.0%
Total		N	12	15	27
		% within organisaton	44.4%	55.6%	100.0%

As we can see from table 5:4 the clinical sample percentage (81.3%) of prominent level of impulsivity is over four times larger than the community sample (18.2%). Across the whole sample however the amount of high (55.6%) and low (44.4%) percentages of impulsivity were similar.

Table 5:5 Percentages & numbers of low & high antisocial behaviour (ASB) across settings (clinical & community)

			Level of ASB		
			Low	High	Total
Setting	Clinical	N	2	14	16
		% within clinical	12.5%	87.5%	100.0%
	Community	N	11	0	11
		% within community	100.0%	.0%	100.0%
Total		N	13	14	27
		% within both settings	48.1%	51.9%	100.0%

As we can see from table 5:5, the clinical sample percentage (87.5%) of high level of ASB interestingly however the community sample had no high ASB at all (0%), with 100% of the community sample instead reporting low levels if ASB, only 12.5% of

the clinical sample reporting low levels of ASB. Across the whole sample however the amount of high (51.9%) and low (48.1%) percentages of ASB were similar.

5.5.9. Summary of Results

Significant group difference was found in the prevalence of behaviour problems and impulsivity. Specifically, the clinical group had significantly higher rate in both impulsivity and behaviour Problems when compared with the community group.

5.5.10. Level of impulsivity; executive functioning problems and behavioural problems occurs with high CU traits?

Analysis of the data using Chi square cross tabulation revealed that the frequency of behavioural problems with impulsivity and executive functioning was significantly associated with the level of CU traits (high or low) grouping. Impulsivity: (1, N = 27) = 8.17, p <.01. Behavioural problems, (1, N = 27) = 10.71, p <.01, but not executive functioning problems p>.05.

Table 5:6 Shows CU traits; Executive functioning Problems; ASB behaviour Problems & Impulsivity (80%).

	Executive Functioning Problems		ASB (behaviour problems)		Impulsivity	
	High	Low	High	Low	High	Low
High CU traits	(8) 53.3%	(7) 46.7%	(10) 83.3	(3) 20%	(12) 80%	(3) 20%
Low CU traits	(6) 50%	(6) 50%	(2) 16.7%	(10) 83.3%	(3) 25%	(9) 75%

Table 5.6 Shows High CU traits and high prevalence of Executive functioning problems (53.3%); ASB (behaviour problems), (83.3%) and Impulsivity (80%).

Table 5:7 Correlation matrix CU traits (high or low); Impulsivity (high or low) and ASB - behaviour Problems (high or low).

	1 ASB high low	2. CU traits highlow	3. impulsivity high low	4. BART-Y high low	5. FITC high low	6.IAT compatible high low	7. IAT incompatible high low
1	1	.630**	.779**	.110	.110	.224	.110
2		1	.550**	.033	.182	.256	-.116
3			1	.182	-.116	.047	-.116
4				1	-.187	.224	-.038
5					1	.015	.258
6						1	.433*
7							1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 5:7. Correlation matrix shows highly significant correlations P<.01 for only CU traits (high or low); Impulsivity (high or low) and ASB (Behaviour Problems (high or low).

High CU traits seems to be associated with prominent levels of Impulsivity; ASB (behaviour problems) and Executive functioning problems.

5.6. Discussion

The main objective of the current study was to look at behavioural problems both with and without the presence of Callous-Unemotional (CU) traits and identify any relevant executive functioning factors (e.g. risk-taking type; cognitive flexibility etc.), among adolescents in clinical and community samples.

Overall, the findings showed a high frequency of executive functioning problems and impulsivity across both settings. However behavioural problems and CU traits as

shown by the adolescent's self-report measures was higher for the clinical when compared to the community setting. Furthermore, when looking at CU traits split between high and low, Higher CU traits are associated with higher levels of Impulsivity; ASB (behavioural problems) and executive functioning problems.

5.6.1. Primary Findings

Frequencies of executive functioning problems and impulsivity were high for participants, indicating that as previous research highlighted EF is the control centre, managing the self-control and self-regulation functions of the brain, including impulsivity (Herba, et al, 2010; Blakemore & Choudhury, 2006; Vriezen & Pigott, 2002).

Also, in line with earlier research adolescents with conduct problems are shown to consistently have poor test results for executive functions (Ishikawa & Raine, 2003; Lynam & Henry, 2001; Moffitt 1993; Nigg, 2000; Hobson et al, 2011). Significant group difference was found in hypothesis two with the prevalence of behaviour problems and impulsivity with the clinical group having a significantly higher rate when compared with the community group. This is line with previous research showing that EF is a multidimensional construct covering higher-order cognitive processes that regulate a person's behaviour and thoughts to act in a goal-directed manner, highlighting the importance of self-control in relation to conduct problems (Herba, et al 2010; Blakemore & Choudhury, 2006; Vriezen & Pigott, 2002).

Efforts to enable improvement in EF through appropriate interventions could enable the achievement of goals through using the correct and effective actions by learning

relating passed actions to possible future goals and self-monitoring to enable inhibition of inappropriate responses as EF includes both cognitive and emotional components (Zelazo, Müller, Frye, & Marcovitch, 2003).

Levels of behaviour problems; impulsivity and executive functioning deficits with CU traits results showed that high executive functioning deficits; impulsivity and behaviour problems were associated with high CU traits. This could be in line with Frick et al., (2003a&b), whereby CU traits combined with aggressive behaviours are associated with social development deficits (i.e., social cognition).

5.6.2. Limitations

Despite the success of the current study, the findings should be interpreted within the context of its limitations. The first point is the fact that the present study had a small number of participants (n=109) as they formed the intervention group to be compared to the control (waitlist). A larger number of participants may enable a more complex analysis to be administered to find causal results. Secondly due to the smaller number in the intervention group, generalisation difficult. However, the results of the present study are not that different from those of other published studies. Furthermore, the nonsignificant findings may be due to limitations in the validity of a few of the experimental measures.

Despite these limitations, this study will supply useful baseline objective measures for the intervention group especially in relation to EF and future studies should include a larger sample.

A further limitation of the current study is that no EF data for the waitlist (control) were provided, due to time contestants. Future programmes should offer EF measures for comparison between control and intervention groups to enable further robust comparisons to lead to generalisation of the findings.

5.6.3. Interpretation of Findings and Future Directions

The findings of the present study support the notion for the combination of measures of EF and BP both with/without CU traits to fully explore the complex nature of these behaviours. This is in line with earlier research supporting the benefits of this

PREVALENCE OF MENTAL HEALTH PROBLEMS AMONG ADOLESCENTS IN CLINICAL AND COMMUNITY SAMPLES WITH BEHAVIOURAL PROBLEMS (STUDY 4)

6.1. Overview

The main aim of Study four was to compare the prevalence and correlates of mental health problems with behavioural problems among adolescents, in clinical and community settings.

6.2. Mental Health Problems

When considering behavioural problems, it is important not to consider them in isolation, as they are often associated with other mental health disorders. Evidence highlight's that "comorbidity" is associated with enduring permanence. Comorbidity is the co-occurrence of one or more diseases or disorders in an individual in both physiological and mental health terms. Co-morbidity is extremely common with mental disorders, especially behavioural problems (Andrews et al., 1999; Merikangas et al., 1998; Hall, 1996). Characteristics may be mistakenly attributed to behavioural problems but may instead be due to a comorbid condition, which is why they must be considered in research (Kessler,et al, 2012). By looking at why disorders co-occur could provide important prospects for prevention and increase its success, people with comorbid mental disorders have both a worse treatment response and course of illness over time (Kessler,et al, 2012). If comorbid disorders are not being diagnosed or treated or even if they are prove more difficult to treat, then people are often left more affected and this has a higher cost

implication. For example, people who have comorbid substance use and mental disorders have poorer outcomes than those who have a single disorder. (Kranzler et al., 1996). When considering treatment causal relationships between comorbidity must be considered, treating one disorder in isolation is less likely to lead to improvement of the disorder being treated and the comorbid disorder. Treatment compliance and outcomes are greatly improved when the relationships between coexisting disorders are considered and understood I.e.: one could be a result of the other or one could be mediating or moderating the other.

Disorders highlighted in previous research to overlap persistent forms of antisocial behaviour are hyperactivity or learning disorders (Moffitt, 1990a). Numerous previous studies by Elliott, Huizinga, & Menard, (1989); Farrington, Loeber, & Van Kammen, (1990) & Moffitt, (1990) all highlighted that multiple behavioural disorders predicted the long-term presence of illegal behaviour. As highlighted adults with antisocial behaviour disorders also had comorbid disorders such as mania, schizophrenia, drug and alcohol abuse, depression, and anxiety disorders (Robins & Moffitt, 1991)

As well as the adult population co-morbidity exists with adolescents especially in behavioural disorders, highlighting the need for further research and tailored interventions/preventions. Various organisational reports into young people's mental health provisions (Department of Health, 2015; McGorry, Bates, & Birchwood, 2013; Mental Health Foundation, 2014; Young Minds, 2014; Department of Health, 2015; Mental Health Task Force, 2016) recommend mental health services to consider structuring models of care in line with young people's

needs as the changing needs of young people don't fit into the current structure (Department of Health, 2015). Preventative services are also emphasised in the NHS funded Children and Young People's Improving Access to Psychological Therapies (CYP-IAPT) programme, 'a transformation initiative that supports services to satisfy national policy, provide evidence-based interventions, adheres to nationally agreed outcome frameworks and maximizes partnership work' (www. england.nhs.uk/mental health/cyp). As aadolescence is a period where many mental health problems arise even within non-clinical samples (DuRant, Smith, Kreiter and Krowchuk,1999), for example a mental health problem prevalence rate of 14.3% was recorded in a study by Burnett-Zeigler et al. (2012) in line with the World Health Organisation (WHO, 1992; 2001; 2002;2004;2007) prevalence rate of 10%-20%.

Clearly a move to better understand the mental health problems individual presentation is required to ensure that intervention or prevention programmes target not only the probable causes main issue, but also any co-morbid features to ensure the best outcome (Costello et al., 2003).

Many large epidemiological studies have highlighted the prevalence of adolescence mental health issues using the Youth self-report (YSR) measure as it measures both internalising (I) and externalising (E) behaviour and their subscales: I = Withdrawn , Somatic Complaints and Anxious/ Depressed and E = Delinquent Behaviour Aggressive Behaviour and Social Problems , Thought , Attention Problems and Other Problems. Studies across both clinical and community settings using Youth Self Report (YSR) indicated a ratio of one in five young people from the general population would suffer from at least one mental disorder during adolescence (Steinhausen, et al, 1998).

A study using YSR compared a community and clinical group of adolescents to uncover any differences in the symptomatology of their mental health problems or interpersonal differences (Brown & Wright, 2003). This study highlighted significant differences between the comparison groups; the clinical sample had significantly higher total scores on YSR, (Externalising & Internalising problems). These results showed significant deficits in social skills which effected the likelihood of diagnosable mental health problems (Brown & Wright, 2003) and a negative impact on both their functioning and their emotional control. Stress is a feature of diagnosed mental health problems as adolescents are unable to regulate their emotions or behaviours successfully leading to additional problems (Kjelsberg & Nygren, 2004), further supported by a community sample study which found significantly lower rates of emotional and behavioural problems compared with adolescents from clinical samples (Kjelsberg & Nygren, 2004).

6.2.1. Emotional Dysregulation and internalising/externalising problems

A key psychological risk factor which is associated with mental health problems is emotional dysregulation, which results in adolescent psychopathology, both Internalising and Externalising problems (Silk, Steinberg, Morris, 2003). Processes that effect Emotional and behavioural dysregulation particularly effect anger control a key part of externalising disorders (Bradley. 2000). Similarly processes that affect an adolescent's ability to down regulate their emotions can lead to depression as positive emotions cannot be maintained (Cole, Michel, and Teti ,1994). Therefore, young people unable to regulate emotional and behavioural

situations effectively are more likely to have emotional and behavioural problems, identifying these issues psychopathology may lead to more effective treatments.

Emotional dysregulation is not the only risk factor for behavioural problems and/ or associated co-morbid disorder, other factors are interplay such as environmental i.e.: peer or family influence, a clear link between for example problematic families and antisocial peers and adolescents' emotional and behavioural problems (Lee & Bukowski, 2012; Kenny, Dooley, & Fitzgerald, 2013). Previous research looking at externalising (Frick & Jackson, 1993) and internalising problems (Hughes, et al, 1998) found internalising was associated with poorer family functioning within different parts of the family system, conversely the externalising disorder research showed that the child also had an effect on its family functioning. The relationship between family functioning and adolescent behavioural problems is not as clear as that of peer relationships. In adolescents peer relationships take priority over family relationships in this transition period into adulthood. Peer relationships are vital to enable adolescents to re-invent their view of themselves and therefore it is not surprising it can affect their mental health. Substance use (Prinstein & La Greca, 2004), Internalising problems (Riesch, Jacobson, Sawdey, Anderson, & Henriques, 2008) and externalising problems - aggressive behaviour (Fite, Rubens, Preddy, Raine, & Pardini, 2014) showed a positive relationship between problematic peers' relationships.

As adolescence is a time when people find themselves and establish their friendship groups and future identities (Patel, Flisher, Hetrick & McGorry, 2007), it is a time that would be significantly affected by mental health problems, that usually continue into adulthood. Investigations into the psychosocial factors involved in

adolescent mental health problems and comorbid factors can inform better preventions and interventions in both clinical and community samples and highlight any age effects (Burstein, Ginsburg, Petras & Ialongo, 2010; Canino, et al., 2004; Costello et al., 2003; Friedrich, Mendez, & Mihalas, 2010; Kapi, Veltsista, Sovio, Jarvellin & Bakoula, 2007; Pathak, et al., 2011); gender differences (Burstein, Ginsburg, Petras & Ialongo, 2010; Canino, et al., 2004; Costello et al., 1998; Friedrich, Mendez, & Mihalas, 2010; Kapi, Veltsista, Sovio, Jarvellin & Bakoula, 2007; Pathak, et al., 2011; Rescorla, et al., 2007). or social economic differences or effects and if they have changed or evolved in different patterns than those previously predicted.

Thus, given extant research, it is important to consider gender and age when studying mental health problems in adolescents.

6.2.2. Risk factors of Adolescent Mental Health

Large segments of young people are growing up in circumstances of such limited assets and persistent adversity that their development and health are certain to be severely compromised. In such circumstances, there is an elevated risk of developing mental health problems, as they are vulnerable to several risks, such as psychological trauma, environmental stress, and biological risk factors (Jessor, 1991). Therefore, adolescence is a key developmental stage in terms of mental health.

Examining factors that increase adolescents' risk of developing mental disorder is important, genetic & biological factors, psychological trauma, environmental stress, family, society and culture and an often complex combination

of A few or all of these increase mental health problems in adolescents (Burnett-Zeigler, et al., 2012; Fatori, et al., 2013; Fumagalli, Molteni, Racagni & Riva, 2007; Johnson et al, 2015; Patel, Flisher, Hetrick, & McGorry, 2007; Peer, Rothmann, Penrod, Penn & Spaulding, 2004; Pilgrim & Roger, 2010; Rutter, 2000). In addition to these factors, there is also an individual variation in terms of adolescents' personality, their academic ability and sexuality that cause problem behaviour (Aggleton, Hurry & Warwick, 2000; Burnett-Zeigler, et al., 2012; Patel, Flisher, Hetrick, & McGorry, 2007).

Identifying the association of risk factors in mental health problems, such as biological and genetic factors and how they interact with environments to increase the risk of mental disorders is imperative as psychosocial factors are risk factors in different types of psychopathology (Richter, 2006; Patel et al., 2007). Low socioeconomic status put adolescents at a greater risk of developing mental health problems (Pilgrim, et al., 2010) as they lack social support and control. Different disorders have been found to be associated with different risk factors (Claveirole & Gaughan, 2011; Essau, 2004) highlighting that a multifactorial causes of mental health problems in young people offers the best explanation (Aggleton, Hurry & Warwick, 2000; Claveirole & Gaughan, 2011; Essau, 2004; Ford, et al. 2004).

6.3. Rationale, Aims and Research Questions

The overall aim of this study is to compare both the prevalence and correlates of mental health problems among adolescents with behavioural problems in clinical and community samples. The more specific research questions are as follows:

The more specific research questions addressed by this study are:

- What is the prevalence of mental health behavioural problems among adolescents in clinical and community settings?

- Which factors are associated with mental healthhealth problems and behaviour problems?

What is the the relationship between behaviour Problems and various psychosocial functioning syndrome, among adolescents in clinical and community settings?

6.4. Methods

6.4.1. Participants

Participants used in this study were (N = 318) from both clinical and community settings. Detailed outline of how these participants were sampled and demographics are found in chapter 2, section 2.4.

6.5. Procedure

This research was approved by the University of Roehampton's Ethics Committee. Further information about consent procedures and ethical considerations were described in chapter 2, Section 2.4.

6.5.1. Instruments

Questionnaires used in this study were shown in Table 6.2 below. Detailed outline of the questionnaires is found in chapter 2, section 2.5.

Table 6:2 Questionnaires used in study 4

Instrument	**What measures**	**Number of items**	**Cronbach's alpha**
Demographic Information	Socio-demographic Information	13	N/A
SAHA	Involvement in or risk of Antisocial behaviour	19	.74
YI-4 (DSM-5)	Symptoms of conduct disorder and oppostional defiant disorder	16	.82
YSR	Internalising and externalising problems	108	.94

*Note: 3-4 times inputted in SPSS as '3' and 5 or more times inputted SPSS as '4

6.5.2. Statistical Analysis

The IBM SPSS 25.0 software programme was used to conduct all the analyses. Prior to data analysis, data was all screened for missing values, outliers, and normality of distribution. All the data analysed, used a minimum alpha value of .05 to test for significance.

The following tests were all used to analyse the data:

a) Descriptive statistics were calculated for all participants (both in the community and clinical groups) to evaluate the prevalence of behavioural problems, cut off

points. The Split (low; medium; high) is based on answers of **high** prevalence = very often; medium = sometimes/often) **low** = no instance ofmental health problems, and behaviour problems.

b) Using a Chi Square cross tabulation as a joint frequency distribution of cases based on grouping the types of behaviour (YI-4) only by (1) Aggression to People and Animals; (2) Destruction of Property; (3) Deceitfulness or Theft and (4) Serious Violations of Rules, a comparison was made of behaviour problems to highlight any differences across gender; ethnic group and age.

c) Multivariate and separate univariate analyses were all performed to examine gender, ethnicity and age differences on frequency and type of behaviour problems.

d) A further T-Tests and ANOVA was used, to look for significant differences between the clinical and community group via a repeated measures ANOVA. This test determined that the clinical group had significantly higher levels of both behaviour problems and psychosocial issues, when compared to the community group.

ec) The multiple regression analysis was used to evaluate the extent to which psychosocial functioning significantly predicted participants' ratings of behaviour problemsbehaviour problems

To check for the normality of data distribution a Kolmogorov Smirnov (KS) test was used. Variables showed a significant result and thus the assumption of normality of distribution for these variables was not confirmed. However, as the sample size is large enough and provides a power analysis, the decision to continue with parametric

tests was made, as it considered that none of the variables are higher or lower ±3 (Stevens et al, 2012).

6.5.3. Checking for assumptions of the tests used in this Chapter /Study 4

Assumptions of MANOVA: Considering the assumptions of *independence of observation* and *random sampling*, the sample size is large enough and randomly collected to prove that this assumption was not violated. Considering the assumption of *multivariate normality*, according to Stevens et al, (2012), if all variables meet univariate and bivariate normality, multivariate normality can be, assumed, as not violated. In this respect, this assumption is not, violated. Considering *homogeneity of variance-covariance matrices*, Levene's Test for each dependent variable and the Box's M Test of Equality.

6.6. Results

The twelve independent variables included: ethnicity; religion; are you living with both parents; Is your mother working; Is your father working; mother's highest education; father's highest education; No. of times family has moved in last year; are you entitled to free lunches; clinical community group; gender; age; internalising behaviour (YSR) and externalising behaviour (YSR).

When looking at each problem category separately (as above) this time correlated with total problem behaviour measured by YI-4 (DSM5) and SAHA These results indicate a positive association between behaviour problems and mental health problems.

Table 6:3 Frequency of gangs in clinical and community samples measured by YSR.

Independent variables		*F*	*df*
Ethnicity	.81	***4.7	9
Religion	.51	***6.7	21
Living with both parents	.99	.94	3
Mother is working	.98	1.32	3
Father is working	.99	.94	3
Mother highest education	.61	***8.6	12
Father highest education	.72	***4.3	15
No of times family has moved in last year	.59	***7.3	15
Entitlement to free lunches	.9	**3.34	6
Sample clinical or community	.94	**4.12	3
	.97	1.68	3
Age	.69	***4.9	15
Internalising behaviour	.18	***5.6	78
Externalising behaviour	.08	***10.4	72

* = p< .05;

** = p<.01;

*** = p<.000

The multivariate result was highly significant (p< .000, see Table 6:3 above) for the following six variables age; ethnicity; religion; both mothers and father's highest education (measured separately as a measure of social economic status) and the

number of times the family has moved in the last year, this indicated a difference in the level of Behaviour Problems between ages; ethnic group; as well as social economic status (SES- measured using both mothers & father's highest education). A measure of the stability of home life was taken by looking at the number of times the family has moved in the last year, this also was highly significantly ($p < .000$, see Table 6:3) related to a difference in the level of behaviour Problems according to stability in the home.

Also, as expected externalising behaviour (measured by YSR) was highly significant ($p < .000$, see Table 3:8), but so was internalising (measured by YSR) indicating a difference in the level of Behaviour Problems within both groups.

Significant results ($p < .01$, see Table 6.3 above) as expected were found for Sample (clinical or community) indicating a difference in problem behaviour between the group. There were also significant results by another measure of SES which asks - are you entitled to free lunches? This showed a difference in the level of problem behaviour in relation to SES. However, the following four variables including measures of SES; Are you living with both parents; does your mother or father work (measured separately) and gender has not indicated a difference in the level of Behaviour Problems between these measures of SES or males and females.

Table 6:3(for full table see appendix 22), the majority of YSR answers that uses questions that measure mental health type problems were significantly higher ($p < .05$). in the clinical than in community settings; these behaviours were related to "externalising type behaviours (e.g.: drinks alcohol without parent's approval & argues a lot), whereas the more Internalising type behaviours answers (e.g.: Is afraid

of certain; situations; places - not school & Is too fearful or anxious), overall were significantly higher in the community than in the clinical sample.

Surprisingly however questions that measure mental health type problems that were more Internalising type were significantly higher ($p < .05$). in the clinical than in community settings; these behaviours were related to “Internalising/thought problem type behaviours (e.g.: feels too guilty & feels that others are out to get me).

Table 6:4 Examples of specific types of symptoms of mental health disorders as measured using YSR by settings (for full table see appendix 22)

YSR	Clinical		Community			
	Mean	Std. Deviation	Mean	Std. Deviation	p	F
2. drinks alcohol without parent's approval	0.21	0.41	0.04	0.24	0.000	74.34
3. argues a lot	0.92	0.78	0.75	0.61	0.006	7.60
8. has have trouble concentrating or paying attention	1.17	0.80	0.66	0.67	0.039	4.32
12. I feel lonely	0.23	0.48	0.37	0.62	0.000	14.96
13. feels confused or like in a fog	0.22	0.51	0.34	0.54	0.005	8.14
21. destroys things belonging to others	0.23	0.48	0.07	0.26	0.000	55.98
23. disobeys at school	0.61	0.63	0.29	0.53	0.000	14.15
29. Is afraid of certain; situations; places,(not school).	0.28	0.64	0.48	0.57	0.031	4.70
34. feels that others are out to get me	0.57	0.86	0.16	0.39	0.000	162.91
35. feels worthless or inferior	0.31	0.61	0.14	0.37	0.000	36.06
36. accidently gets hurt a lot	0.21	0.53	0.48	0.65	0.000	31.69
37. gets in many fights.	0.49	0.64	0.30	0.56	0.002	9.53
39. hangs around with kids who get in trouble.	0.92	0.81	0.47	0.55	0.000	20.22
45. Is nervous or tense.	0.23	0.43	0.43	0.58	0.000	36.01
48. not liked by other kids	0.73	0.90	0.25	0.54	0.000	96.69
49. can do certain things better than most kids.	0.59	0.72	0.95	0.71	0.030	4.73
50. Is too fearful or anxious.	0.16	0.50	0.27	0.50	0.002	9.56
51. feels dizzy or light headed.	0.62	0.79	0.30	0.53	0.000	47.07
52. feels too guilty	0.60	0.76	0.20	0.42	0.000	98.77
53. eats too much	0.22	0.42	0.49	0.64	0.000	49.30
54. feels overtired without good reason	0.23	0.43	0.31	0.58	0.006	7.68
55. Is overweight	0.08	0.34	0.15	0.36	0.002	10.23

56. Physical problems without known medical cause.	0.03	0.18	0.19	0.47	0.000	43.89
f. Stomach aches.	0.19	0.39	0.36	0.60	0.000	30.22
60. likes to try new things.	0.93	0.91	1.26	0.72	0.000	20.81
61. school work is poor.	0.73	0.73	0.26	0.49	0.000	40.38
67. runs away from home.	0.13	0.40	0.05	0.26	0.000	16.93
69. sees things that other people think aren't there.	0.13	0.48	0.24	0.52	0.003	8.85
72. sets fires.	0.32	0.67	0.07	0.32	0.000	81.56
75. Is too shy or timid.	0.12	0.33	0.40	0.62	0.000	78.53
83. stores up too many things they don't need	0.14	0.35	0.46	0.63	0.000	91.80
88. enjoys being with people.	0.94	0.89	1.23	0.75	0.002	9.80
96. I think about sex too much.	0.07	0.33	0.13	0.36	0.004	8.38
103. unhappy, sad or depressed.	0.17	0.37	0.30	0.51	0.000	23.88

6.6.1. Are there any associations between behaviour problems and mental health problems?

Correlations were computed, using the grouping of either ODD or CD type behaviour grouping from YI-4 (DSM5) & SAHA results data for 318 participants.

Table 6:5 Correlation of ODD & CD type behaviour and YSR internalising & externalising symptoms

		YSR Internalising syndrome	*YSR externalising syndrome*
1.ODD type behaviour grouping from YI-4 (DSM5)	*(n) Pearson correlation*	*(287) .151**	*(297) .292***
2 .CD type behaviour grouping from YI-4 (DSM5).	*(n) Pearson correlation*	*(293) .135**	*(303) .247***

**. Correlation is significant at the .01 level (2-tailed).

*. Correlation is significant at the .05 level (2-tailed).

The results suggest that all correlations were statistically significant. The correlations of both CD (1) & ODD (2) type behaviour grouping from YI-4 (DSM5) with YSR internalising syndrome were statistically significant ($p < .05$).

The correlations of both CD (1) & ODD (2) type behaviour grouping from YI-4 (DSM5) results data for 318 participants.

Table 6:5 Correlation of ODD & CD type behaviour andwith YSR externalising syndrome were highly statistically significant ($p < .01$). Indicating that both behaviour groupings are significantly associated with externalising syndromes more than internalising, although both were significant.

In general, the results suggest that adolescents who rate themselves as higher in ODD or CD type behaviours also tend to rate themselves higher in internalising, but

even higher in externalising syndromes. Suggesting that CD type behaviours rate even higher with externalising type syndromes.

Further correlation analysis was carried out grouping the YSR in the correlation matrix (Table 6:5) we can see that all the YSR factors from the Internalising scale (Withdrawn, Somatic Complaints and Anxious/Depressed); the externalising scale (delinquent behaviour & aggressive scales) and the other scale (social problems; thought problems; attention problems and other problems) that were assessed were all separately significantly positively correlated with each other $p < .01$. This shows that an increase in one problem behaviour corresponds to an increase in the other behaviour problems.

When looking at each problem category separately (as above) this time correlated with total problem behaviour measured by YI-4 (DSM5) results Internalising scale (Somatic Complaints and Anxious/Depressed); the externalising scale (delinquent behaviour & aggressive scales) and the other scale (thought problems; attention problems) significantly positively correlated with each other $p < .01$. Although withdrawn and other problems from the internalising scale were significantly positively correlated with behaviour Problems this was not as highly significant as the one above $p<.05$. These all indicate that as problem behaviour increases so do, they (e.g.: higher problem behaviour higher thought problems) However, interestingly social problems was not significantly correlated with problem behaviour; indicating that an increase in social problems does not mean an increase in problem behaviour.

Table 6:6 ANOVA for grouping of types of mental health disorders as measured using YSR by settings

	Clinical Mean (SD)	Community Mean (SD)	P values
Internalising Problems	10.61 (7.73)	10.03 (8.21)	0.580
Withdrawn	2.57 (3.11)	2.39 (2.28)	0.001
Somatic Complaints	2.32 (2.38)	2.85 (3.50)	0.188
Anxious / Depressed	5.10 (4.94)	4.61 (4.20)	0.373
Externalising Problems	9.93 (8.22)	9.68 (6.89)	0.786
Delinquent Behaviour	3.48 (3.03)	2.69 (2.53)	0.020
Aggressive Behaviour	6.46 (5.43)	6.96 (5.10)	0.436
Social Problems	3.21 (2.27)	3.24 (2.54)	0.933
Thought Problems	2.74 (2.33)	3.24 (2.65)	0.122
Attention Problems	4.86 (2.60)	3.86 (2.68)	0.003
Other problems	6.68 (4.83)	7.79 (4.35)	0.786
Total Problems	39.38 (23.55)	38.31 (21.13	0.727

The ANOVA result was highly significant ($p < .001$, see Table 6:6 above) for the following two variables: somatic complaints and anxious/depressed, this indicated a difference in the level of these mental health problems between group (clinical or community) and problem behaviour level. There was also a significant result ($p < .005$, see Table 4:6 above) for the following variables: Rule breaking behaviour and externalising syndrome grouping, this indicated a difference in the level of these mental health problems between group (clinical or community) and problem

behaviour level. Also, as expected Antisocial behaviour was highly significant (p< .000, see Table 6:6), indicating a difference in the level of mental health Problems within both groups.

However, the following variables; YI-4 total and withdrawn; social problems; thought problems; attention problems; aggression problems; other problems; internalising problems (all measured by YSR) and YSR overall total has not indicated a difference in the level of mental health Problems between group (clinical or community) and problem behaviour level see Table 6:6).

6.7. Discussion

This study overall compared mental health problems and behavioural problems among adolescents in clinical and community settings. The more specific aims of this study were, to explore the relationship between behavioural problems and mental health problems. It was also examined if involvement in behavioural problems has any impact on psychosocial functioning.

6.8. Primary Findings

6.8.1. Which factors are associated with mental health problems and behaviour problems?

These results do seem to show associations between behavioural problems and mental health problems. CD type behaviours rate even higher with externalising type syndromes (delinquent behaviour & aggressive scales). On an individual level an increase in one problem behaviour corresponds to an increase in another other problem behaviour (e.g.: higher problem behaviour higher thought problems), for the Internalising scale (Somatic Complaints and Anxious/Depressed); the externalising scale (delinquent behaviour & aggressive scales) and the other scale (thought problems; attention problems. However, a surprising result was that an increase in social problems does not mean an increase in problem behaviour, requiring further investigation. These results show a positive association between behaviour problems and mental health problems in line with earlier research by Hinshaw (1987).

6.8.2. What is the relationship between behaviour Problems and various psychosocial functioning syndrome, among adolescents in clinical and community settings?

Examining the relationship between behaviour Problems and various psychosocial functioning syndrome, showed that as behaviour Problems went up so did rule breaking problems and aggressive tendencies. Conversely results also showed that as behaviour Problems went up social skills went down.

This seems to support previous literature by both Achenbach & Edelbruck, (1978); Hinshaw, (1987); Achenbach, Dumenci & Rescorla (2002) and Shaw & Winslow, (1997) that highlights defiance, impulsivity, disruptiveness, aggression, antisocial features, and over activity linked with externalising behaviours and often seen as the DSM- IV disorder of oppositional defiant disorder (APA, 2000). These negative, hostile, and defiant behaviours can lead to later serious conduct disorder and serious externalising disorders. In line with Farrington, (1989) and Moffitt, (1993) who previously said these behaviours are also a major risk factor for later juvenile delinquency, violence, and adult crime.

6.8.3. Unexpected Findings

A few unusual results were results that were higher for the community than the clinical sample (e.g.: ‘I have forced someone into sexual activity’; ‘I have deliberately engaged in fire setting with the intention of causing serious damage’;’ I have broken into someone else’s house, building, or car.’ This was found, in the pre-testing, the post testing for the sample will be conducted after

the intervention when these results were compared at post testing to see if these are actual or participant reactivity and/or demand characteristics.

6.8.4. Limitations and Future Recommendations

These findings should be evaluated, in the context of the study's limitations.

As with Study 1 (chapter 3) the measurements included the use of self-reports from adolescents, in future studies once again by including parental reports and observational data there could be a more complete picture of the complex multifaceted interaction between risk factors.

6.9. Conclusion

In conclusion, the results of this chapter supply evidence on higher prevalence of mental health problems and behavioural problems in the clinical when compared the community sample. In addition, the findings highlight, the relationship between behavioural problems and mental health problems has shown a significant association. The final aim shows behavioural problems does have an impact on psychosocial functioning, although further research must decide how this occurs.

From an applied perspective, the findings from this study, deliver both significant and positive implications for both the literature and community and clinical samples. These finding have implications in the health sector and the education sector due to the expected positive outcome of the low-cost, preventative intervention that will be developed, from these findings; therefore, further exploration is called for.

USING SUPER SKILLS FOR LIFE TO REDUCE MENTAL HEALTH PROBLEMS: FEASIBILITY STUDY (STUDY 5)

7.1. Overview

The main aim of study 5 was to examine the effectiveness of a transdiagnostic programme (Super Skills for Life; SSL, Essau & Ollendick, 2013) in reducing mental health problems among adolescents; SSL is based on the principles of cognitive-behaviour therapy, behavioural activation, and social skills. Another aim is to examine factors that predict the intervention outcome.

7.2. Introduction

Preventing emotional (internalising) and behavioural (externalising) problems has become one of the most pressing issues of our time (Campbell et al, 2000; Gournay, 2001; Hann, 2002). Internalising and externalising problems affect up to 30% of the adolescents in the general population and will cause significant distress and impairment in major areas of life (Frick et al. 2013; Frick & White, 2008). These problems if left untreated have a negative course and are often associated with the onset of several types of co-morbid disorders. Despite the number of evidence-based treatments for the majority of the adolescents with mental health problems (Goodman,1997; Goodman & Scott, 1997), only a small proportion of them are engaging in treatment (Essau, 2004; Meltzer, Gatward, Goodman, & Ford, 2000).

Previous research for behavioural problems has focused on the importance of parental management training (Kazdin, 2009), however, the efficacy of these

intervention programmes relates to younger children (Fossum, Handegard, Martinussen & Morch, 2008). Older children/adolescents showed more improvement from CBT-based interventions than younger children. Cognitive Behavioural (CBT) approach is the preferred intervention which intends to solve problems relating to dysfunctional emotions, cognitions, and behaviours (Hoffman, Asnaani, Vonk, Sawyer & Fang, 2012).

CBT has shown promising results among adolescents with behavioural problems, interventions find the intricacies of interactions among risk factors such as cognition; affect, social, environmental, and behavioural. By decreasing the social-cognitive deficits/distortions, CBT interventions have the goal of building proper social competencies (Larmar, 2006). The improvements of behavioural problems are the result of teaching the adolescent to self-regulate their behaviour (Nezlek & Kuppens, 2008)., using a cognitive framework to address numerous issues such as self-control, social, behavioural, and academic issues (Meichenbaum & Burland, 1971).

Successful research using CBT interventions have targeted areas including social skills training, self-regulation approaches, relaxation techniques, problem-solving, cognitive-restructuring, and modelling. Targeting social-cognitive discrepancies in adolescence lead to an improvement in behavioural problems by promoting prosocial behaviours (Ghafoori &Tracz, 2004). Although some research has found that CBT has limited effects on BP (Lochman, 1992), equally other studies have supplied evidence of its success, (Burton, 2006; Ruttledge &

Petrides, 2011; Squires & Caddick, 2012). Benefits were also found to persist over time (Squires, 2001; Ruttledge & Petrides, 2011).

Hostile attribution bias (HAB) is a tendency to interpret another's actions during ambiguous situations as hostile in intent leading to aggressive reactions against the individual (i.e.: someone accidentally bumping into them and reacting angrily). HAB is seen in aggressive young people with behavioural problems, these CBT techniques that reduce judgment and decision-making errors may be an important factor to reduce behaviour Problems (Orobio de Castro, Veerman, Koops, Bosch, & Monsouwer, 2002). Similarly, age was one of the moderator/mediators for CBT interventions for young people with behaviour problems; externalising & internalising, other factors were Social economic status (SES) and practitioner skill etc, (Kendall & Choudhury, 2003).

The group approach has been shown by Larmar (2006) to be an effective means of helping CBT intervention for pupils with BP, this could be that peer influence benefits the participants (Burton, 2006). Schools are a prime location for group interventions and enable access to as many young people as possible, this leads to the best chance to prevent or reduce psychological impairments (Wilson, & Lipsey, 2007). A few of these adolescents may see school as there only stability and for these young people, school-based prevention programmes may be the best choice. Prevention programmes conducted in schools focus on only one type of problem (Gottfredson, Gottfredson, Czech, Cantor, Crosse, & Hantman, 2000), however, a more cost-effective method is universal school-based group programmes. These universal programmes delivered to all students in a

classroom are accessed by the highest number of students and can target multiple traits at the same time at or before peak emergence of these traits (Wilson & Lipsey, 2007).

An overview of a few of the child/adolescent's intervention programmes for internalising and externalising problems is shown in Table 7-:1. The mean age of the young people was under 14 years and interventions included CBT and Child therapy etc and were delivered in both groups and on an individual basis.

As we can see from Table 7:1 there are varied methods used for interventions of externalising and internalising problems that target the young person directly. As previously mentioned, parental training is a preference for externalising and externalising behaviours, but this is not the most suitable methods for teenagers. Further research needs to explore how transdiagnostic group CBT treatments (McEvoy, Nathan & Norton, 2009). for externalising and internalising behaviours perform in adolescents.

Table 7-:1 Child Intervention Programmes

Study	***Mean age***	***Inclusion criteria***	***Intervention***
Barkley et al (2001)	14	ADHD/ODD	Problem solving communications training (PSCT)
Essau et al (2014)	9	Anxiety Problems	T-GCBT (Super skills for Life)
Fehlings et al (1991)	10	ADHD	CBT
Kratochwill, Elliott, Loitz, Sladeczek, & Carlson (2003)	4	Externalising /Internalising problems	Child therapy (CT)
Nitkowski, Petermann, Büttner, Krause-Leipoldt, & Petermann (2009)	10	CD/ODD	Training for aggressive children (TAC)
Webster-Stratton (1984)	6	CD	Video tape individual therapy
Beauchaine ,Webster-Stratton, Reid, & (2005)	5	ADHD	Child therapy (CT)

7.2.1. SSL- A - link to previous studies

The original program 'Super skills for Life (SSL)' study Essau et al. (2014) demonstrated positive effects when applied in a school setting, with children aged 8-10 years with anxiety problems, and other symptoms such as hyperactivity, peer problems and conduct problems.

The New Super skills for life (SSL-A) has adapted the original program but made it more age appropriate to adolescents 12-18 years old and added in a section focussed on healthy eating; exercise and sleep hygiene. As adolescent is a time for beginning to make your own choices it is paramount that adolescents have the correct guidance to enable them to make informed choices. As with the original program it is a train the trainer approach, shorter than existing programmes, using a multi-dimensional, psycho-educational approach. It employs CBT methods similar to those used in FRIENDS (Barrett, Lowry-Webster & Turner, 2000b), teaching children for example strategies to cope with challenging situations (Essau et al., 2012).

Therefore, the first aim of our study was to assess the efficacy of an adaption of the transdiagnostic prevention programme (Super skills for life – for 8-11-year old's), which has been adapted to 11-17-year olds (Super Skills for Life – adolescent version; SSL-A) to reduce behavioural problems and related problems such as impulsivity, aggressive behaviour.

The specific objectives were as follows:

- To examine the effects of the SSL-A in reducing mental health problems [internalising and externalising problems] in adolescents who participated in this

programme compared with those who did not receive the programme (i.e., those in the control group).

- To examine the effects of the SSL-A on adolescent's hostility attribution bias and antisocial behaviour.

- To examine the moderating role of gender, age, and school type on the effectiveness of the SSL-A.

7.3. Methodology

7.3.1. Participants

A subset of 112 adolescents took part (mean age: 12.16 years; SD = .83) in this feasibility study, participants was recruited from the total sample (N = 318) that took part in studies 1, 2 and 4, (chapters 3:4 & 6), from both clinical and community settings. Detailed outline of how all these participants were sampled and demographics are found in chapter 2, section 2.4.

These adolescents were randomly to either the intervention (N = 55; 49.1%) or a waitlist control group (N = 57; 50.9%). Randomisation is important in trials to prevents selection and accidental bias and gives comparable groups eliminating bias in treatment assignments. This method insures that each participant had an equal chance of receiving any of the treatments under study generating two groups which are alike in all important aspects except for the intervention one group receives and is necessary for measuring the efficacy of the treatment.

Block Randomisation was used to assign participants to intervention or waitlist group by dividing potential participants into blocks of 2 (A & B), then each block is chosen randomly.

7.4. Procedure

This research was approved by the University of Roehampton's Ethics Committee. Further information about consent procedures and ethical considerations were described in chapter 2, Section 2.4.

7.4.1. Instruments

Detailed outline of the self-report questionnaires measures used in this study are found in in chapter 2, section 2.5.

The questionnaires used in this study include The Social and Health Assessment (SAHA; Ruchkin, Schwab-Stone, & Vermeiren 2004); The Youth Self Report (YSR; Achenbach, 1991); Youth Inventory-4 (YI-4 - DSM5, APA,2013): Hostile Attribution Bias Regarding Relational Provocation (HAB, Crick et al., 2002); The Self-control assessment: The BSCS (Tangney et al., 2004).

These were all completed (pre intervention(T1); post intervention (T2) and 6 month follow up (T3) to allow comparison of the results over time and give and indication of the success of the program.

7.4.2. The Programme and its Implementation

Super Skills of Life consists of eight sessions, which are implemented once a week for the duration of eight weeks. Each session consists of 45 minutes with ten to fifteen children per treatment group. Attrition rates were negligible as any sessions missed were made up on an individual basis prior to the next sessions.

Super Skills for Life (SSL) program (Essau & Ollendick, 2013), was originally developed for children with anxiety and depressive symptoms for 8 – 12-year olds. However, for this study it was adapted for use with 12-18-year olds with problem behaviour.

The content and activities covered in Super Skills are listed in Table 7:2. All sessions are designed for implementation in schools or similar organisations (i.e. charity groups activities or youth clubs). The CBT aspect of the programme is expected to teach adolescents to:

- Learn how to live a healthy and balanced lifestyle
- Build emotional resilience by self-monitoring and adjustment
- Encourage peer learning and build peer networks
- Resolve and adapt when faced with problems
- Promote self-confidence and social skills

Table 7:2 Content & activities of adolescent's programme by session

Session	Aims	Activities
Session 1	To introduce group participants and to introduce the participants to the programme. To introduce the concept of a healthy lifestyle.	Build rapport Introducing the programme, agreeing on group rules, explaining home activities. Reading task explain & discuss healthy lifestyle. Including; healthy eating; exercise; sleep hygiene and time management.
Session 2	To introduce the concept that we are all different and self-esteem.	Recognise, note, and discuss my typical day (individual). Why it is important to have a healthy lifestyle (group). Reading task explain & discuss how we are all different and what self-esteem is. Also discuss situations that improve self-esteem. Recognise, note, and discuss how to carry put self-evaluation. Review session 2 & Home activity.
Session 3	To introduce participant to the concept of feelings.	Introduction to feelings, reading task & open discussion. Recognising feelings tasks (facial expression & body language), face puzzle, feelings thermometer. Task: things that help us feel good and we enjoy and helping others.

Session	Aims	Activities
Session 4	To introduce participants to the concept of thought. To also introduce the concept of the link between thoughts and feelings.	Review session 3 & Home activity. Listing several types of thoughts & discussing thought bubbles. Recognise HELPFUL and UNHELPFUL thoughts – reading task & group task on naming these thoughts. Challenging UNHELPFUL thoughts, reading task & group discussion. Discussing thoughts that help us feel GOOD
Session 5	To introduce the concept of the link between thoughts and feelings & behaviour.	Review session 4 & Home activity. Link between thoughts, feelings & behaviour, reading task. Individual & group activities on thoughts, feelings & behaviour, and active changing of both.
Session 6	To teach adolescents the important of relaxation and to teach them specific relaxation strategies.	Review session 5 & home activity. Learning to Relax, reading task. Listing what happens when feeling relaxed & tense. Various relaxation techniques taught through group activities.
Session 7	To teach adolescents several types of social skills. To teach adolescents using problem-solving steps in dealing with social problem.	Review session 6 & Home activity. Building Skills group activity. Explanation & group discussion on social skills. Reading and role play (in pairs) activity on identification of FRIENDLY & UNFRIENDLY behaviour Role-play on first meetings & how to approach people & how to end conversations politely. Introduce problem solving steps system. Reading task & active appliance of problem-solving steps in-group discussions. Role-play on social problem & appliance of the acquired steps.
Session 8	To review all earlier sessions & briefly summarise, also to teach adolescents we are not alone and provide them with trusted sites for help.	Review session 7 & Home activity. Review sessions 1-7 and summarise together what we have learnt. Advise them of the importance of using trusted websites etc. for information and not trusting everything we read online.

Th program was delivered by the main researcher and an assistant (for further details see in chapter 2, Section 2.4). All the facilitators and any members of school-staff who were shadowing were provided with the manual. The facilitator

manual gives step-by-step instructions on how to implement each session of SSL-A. The instructions clearly outline the main aims and strategies to be used for each session; the desired outcomes, and the exercises to be used in meeting to meet these outcomes. Facilitators are asked to supply examples of certain scenarios to show the aim of each session and use the workbook exercises.

Adolescents were given a workbook which holds the main messages of each session, exercises, activities, role plays and homework. The workbook was used to re-enforce the in-class lessons and enable the participants to refer to them to implement the skills in real life situations (behavioural activation). Adolescents are taught how to use exposure exercises and other practices using demonstrations of scenarios, ensuring that cognitive, behavioural, and physiological experiences are highlighted. Enjoyable and practical activities are used to generate numerous ideas about how to deal with certain situations.

To further encourage behavioural activation home activities were given at the end of each session to enable the continued practice of the skills learnt and participants were needed to return completed home tasks in the following sessions. At the beginning of the next session, these tasks are reviewed and discussed. At the end of the programme, all participants are given a certificate for completion of the programme and an acknowledgement of their involvement and participation throughout. Adolescents who missed a session were needed to complete an individual condensed session with their trainer before they could join the next group session.

As mentioned previously each group had two trained facilitators as well as a teacher or teaching assistant form the school who shadowed the sessions.

7.4.3. Data Analyses

Initially, descriptive statistics were calculated for both the control and intervention group detailing Means and standard deviations before (T1), after (T2), and six months after the completion of the programme (T3). This was followed by a series of factorial repeated measure ANOVAs. Factorial repeated measure ANOVAs were conducted for the intervention group data only on internalising problems.

A series of factorial repeated measure ANOVAs were also conducted for the intervention group data on internalising problems, externalising problems, and other problems to identify whether age gender of setting (clinical or community) acted as moderators for change in pre- to follow up test scores.

7.5. Results

7.5.1. Changes in psychological well-being after the implementation of the SSL-A program

A series of factorial repeated measure ANOVAs were conducted to determine the effect of SSL-A program on internalising syndrome such as withdrawn, somatic complains, anxious/depressed; and externalising problems such as delinquent problems and aggressive behavior. The effect of the SSL-A program on groups' other problems such as social problems, thought problems, attention problems and YSR problems were also assessed.

7.5.2. Internalising Syndrome

Significant interactions between time (pre, post, follow-up) and group (intervention, control) were found for total **internalising syndrome**, $F(2, 104) = 8.58$, $p < .001$, and somatic complaints, $F(2, 109) = 17.92$, $p < .001$. Specifically, multiple comparison using Bonferroni used for the dependent variables that showed interaction effect (Group X Time) showed follow-up score ($M = 8.52$; $SD = 5.52$) was significantly lower ($p < .001$) than post-test score on ($M = 9.94$; $SD = 6.72$) *internalising syndrome*. Similarly follow-up score ($M = 2.32$; $SD = 2.09$) was significantly lower ($p < .001$) than post-test score ($M = 3.09$; $SD = 1.82$) on *somatic complains*.

However, any significant interaction was found on other subscales: withdrawn, $F(2, 109) = 134$, $p > .001$; anxious/depressed, $F(2, 104) = 2.63$,

$p > .001$.

Table 7.3 shows the means and standard deviations of the internalising problems including withdrawn, somatic complains and anxious/depressed for adolescents in the intervention and control groups.

Table 7:3 Means & standard deviations of Internalising problems.

YSR Syndromes		Pre-test Mean (SD)		Post-test Mean (SD)		Follow-up Mean (SD)
Internalising Problems		9.28 (6.63)		9.82 (6.51)		8.85 (6.03)
(total)		9.94 (6.72)		9.42 (5.76)		8.52 (5.52)
Intervention group		8.70 (6.55)		10.17 (7.14)		9.15 (6.48)
Control group						
Withdrawn		1.96 (1.92)		1.89 (1.99)		1.91 (1.87)
Intervention group		1.92 (1.86)		1.83 (1.96)		1.85 (1.69)
Control group		2.00 (2.00)		1.94 (2.03)		1.98 (2.05)
Somatic Complaints		2.47 (2.41)		3.87 (2.34)		2.78 (2.33)
Intervention group		3.18 (2.08)		3.09 (1.82)		2.32 (2.09)
Control group		2.47 (2.41)		3.87 (3.34)		2.78 (2.33)
Anxious / Depressed		4.50 (4.09)		4.38 (3.71)		4.38 (3.67)
Intervention group		4.82 (4.34)		4.42 (4.49)		4.38 (3.46)
Control group		4.22 (3.88)		4.35 (3.93)		4.38 (3.88)

7.5.3. Externalising Problems

Factorial repeated measure ANOVA was also conducted to determine the effect of SSL-A program on externalising problems such as such as delinquent problems and aggressive behavior. As seen on the Table 2, significant interactions between time (pre, post, follow-up) and group

(intervention, control) were found for total **externalising problems**, F(2, 104) = 8.58, p < .001, and aggressive behavior, F(2, 104) = 5.54, p < .001. Specifically, multiple comparison using Bonferroni used for the dependent variables that showed interaction effect (Group X Time) showed follow-up score (*M* = 9.28; *SD* = 5.84) was significantly lower (p < .001) than both post-test (*M* = 9.44; *SD* = 5.83) and pre-test scores (*M* = 10.20; *SD* = 6.18) on *externalising problems*. However, no significant interaction effect was found on delinquent behavior, F(2, 109) = 2.96, p > .001and on aggressive behavior, F(2, 104) = 5.54, p > .001.

Table 7.4 shows the means and standard deviations of the externalising problems including delinquent problems and aggressive behaviour for adolescents in the intervention and control groups.

Table 7:4 Means & standard deviations of externalising problems.

YSR Syndromes		Pre-test Mean (SD)		Post-test Mean (SD)		Follow-up Mean (SD)
Externalising Problems		9.39 (6.11)		8.96 (5.86)		8.84 (5.85)
(total)		10.20 (6.18)		9.44 (5.83)		9.28 (5.84)
Intervention group		8.68 (6.02)		8.54 (5.90)		8.45 (5.87)
Control group						
Delinquent Problems		2.58 (2.16)		2.55 (2.11)		2.44 (2.10)
Intervention group		2.52 (2.04)		2.41 (1.95)		2.27 (1.92)
Control group		2.63 (2.29)		2.68 (2.26)		2.61 (2.25)
Aggressive Behaviour		6.78 (4.71)		6.38 (4.43)		6.36 (4.42)
Intervention group		7.62 (4.91)		6.98 (4.51)		6.96 (4.49)
Control group		6.05 (4.44)		5.85 (4.33)		5.84 (4.32)

7.5.4. Other Problems

Results of the factorial repeated measure ANOVAs to determine the effect of SSL-A program on other problems including social problems, thought problems, attention problems and total YSR problems showed that significant interactions between time (pre, post, follow-up) and group (intervention, control) were found for total **Other Problems** such as; thought problems score, $F(2, 109) = 9.21$, $p < .001$; attention problems, $F(2, 109) = 10.47$, $p < .001$; YSR problems score, $F(2, 104) = 26.26$, $p < .001$. Multiple comparison using Bonferroni used for the dependent variables that showed interaction effect (Group X Time) showed that follow-up score ($M = 2.40$; $SD = 1.99$) was significantly lower ($p < .001$) than both post-test score ($M = 2.87$; $SD = 2.11$) and pretest scores ($M = 3.36$; $SD = 2.49$) on *thought problems*. Similarly results regarding *attention problem*, follow up test scores ($M = 3.18$; $SD = 1.94$) was found significantly lower than pretest scores ($M = 9.39$; $SD = 6.11$; $p = .001$). Results regarding YSR problem, follow-up test score ($M = 32.26$; $SD = 17.39$) was found significantly lower than post-test scores ($M = 33.64$; $SD = 17.29$; $p < .001$) and pretest scores ($M = 37.78$; $SD = 20.54$; $p = .001$). However, no significant interaction effect was found on social problems score, $F(2, 109) = 3.12$, $p > .001$.

To summarise, our results demonstrated that the internalising syndromes including somatic complaints subscale and externalising behaviour score for the intervention group decreased from post-test to the follow-up period, whereas the score for the control group remained in the same range. Thus, in line with

hypothesis 1, the SSL-A (Life skills) programme was also effective in decreasing internalising syndrome and externalising behaviours.

The second aim was to examine the effects of the SSL-A (life skills) on adolescent's hostility attribution bias and antisocial behaviour at post-test and at the follow-up assessment period.

7.5.5. ASB – behavioural problems (DSM)

Main effects of group (waitlist or intervention) on behavioural problems over time.

The results show that there was a significant main effect of group (waitlist or intervention), $F(1, 26) = 36.41$, $p=.00$, $\eta 2 = .107$, Inspection of the means indicated that level of BP scores differed across time for the Intervention group only : (BPT1: M =, 2.42,SD = .50, BPT2: M = 2.19, SD = .50 BPT3: M = 2.19, SD = .21).

Figure 7:1 further illustrates that behavioural problems decreased immediately after the programme and maintained at six-month follow-up for the intervention group only. Post hoc Comparisons (using Bonferroni correction adjusted alpha level of .01 per test) revealed a significant difference between T1 and T3, $t(26) = -2.57$, $p = .00$ (T1: M = 2.42, SD = .50; T3: M = 2.19, SD = .21), and non-significant differences across T2 and T3 ($p > .01$), indicating a decrease in levels of conduct disorder symptoms from preintervention (T1) to six month-follow up (T3) only.

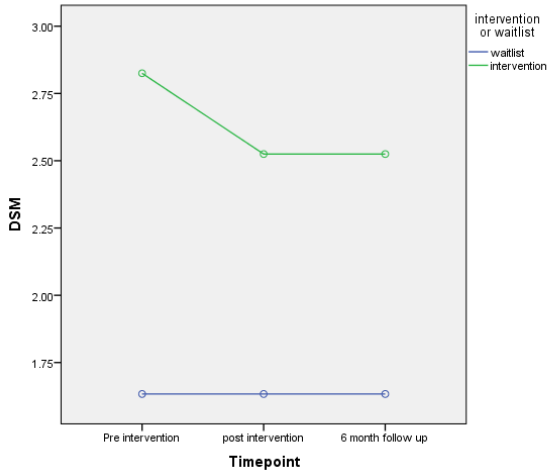

Figure 7:1 ASB (DSM -Behaviour problems) over time (T1 versus T3) for intervention and control group

7.5.6. Hostile attribution bias

Another 2x2 mixed Factorial ANOVA with a group (waitlist or intervention) as the between-subjects variable and Hostile attribution bias (HAB) over time (baseline vs. 6-month follow-up) as the within-subjects variable was conducted on participants' ratings of Hostile Attribution Bias (HAB). Malachy's test indicated that the assumption of sphericity has been violated so the Greenhouse-Geisser correction was employed. There was a statistically significant main effects for the timepoint measures of Hostile attribution bias (Pre = T1 & 6-month follow-up=T2), $F(1.306) = 225.07$, $p = .00$, $\eta 2 = .42$.

7.5.7. Main effects of group (waitlist or intervention) on Hostile attribution bias over time

The results show that there was a significant main effect of group *(waitlist or intervention)*, $F(1, 26) = 36.41$, p=.00, $\eta 2 = .107$. Inspection of the means indicated that behavioural scores differed across time (T1 versus T3) once again a reduction in HAB was seen on the intervention group only (HABT1: M =5.38, SD = 1.35, HABT3: M = 3.57, SD = .31).

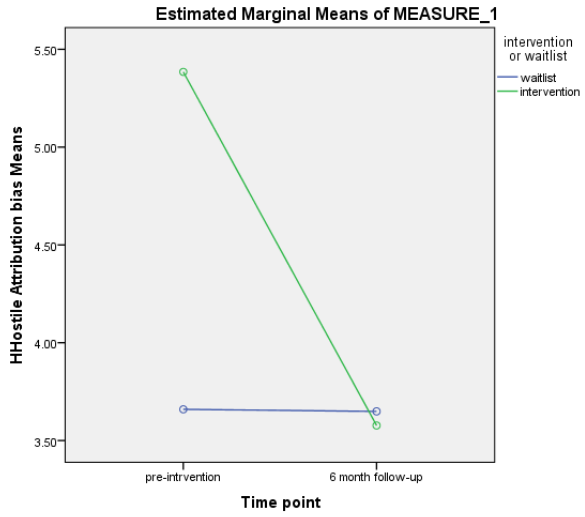

Figure 7:2 HAB level over time (T1 versus T3) for control versus intervention group.

Table 7.5 shows the means and standard deviations of the other problems including social problems, thought problems and attention problems besides YSR Problems for adolescents in the intervention and control groups.

Table 7:5 Means & standard deviations of YSR for internalising problems.

YSR Syndromes		Pre-test Mean (SD)		Post-test Mean (SD)		Follow-up Mean (SD)
Other problems						
Social Problems		3.11 (2.25)		2.83 (2.10)		2.85 (2.11)
Intervention group		3.36 (2.49)		2.87 (2.11)		2.89 (2.16)
Control group		2.87 (1.98)		2.79 (2.10)		2.82 (2.08)
Thought Problems		3.12 (2.54)		2.83 (2.35)		2.70 (2.28)
Intervention group		3.14 (2.54)		2.60 (2.11)		2.40 (1.99)
Control group		3.10 (2.56)		3.07 (2.56)		3.00 (2.51)
Attention Problems		3.83 (2.29)		3.53 (2.13)		3.57 (2.12)
Intervention group		3.78 (2.38)		3.14 (1.93)		3.18 (1.94)
Control group		2.87 (2.22)		2.91 (2.27)		2.94 (2.24)
YSR Problems (total)		35.80 (19.20)		34.48 (17.75)		33.28 (17.39)
Intervention group		37.78 (20.54)		33.64 (17.29)		32.26 (17.13)
Control group		34.07 (17.95)		35.22 (18.26)		34.17 (17.72)

7.6. Moderators for change of symptoms (gender, age, school type)

In order to determine which variables (internalising syndrome, externalising behaviors, other problems and) acted as moderators for change in pre- to follow up test scores, a series of factorial repeated measure ANOVAs were conducted for the intervention group data on internalising syndrome.

7.6.1. Internalising syndrome

There was a significant interaction between time and gender, $F(2, 47) = 3.27$, $p < .05$ on internalising syndrome. Specifically males' follow-up test scores ($M = 7.46$; $SD = 5.95$) was significantly lower than post-test ($M = 8.92$; $SD = 6.35$; $p = .006$) and pre-test scores ($M = 9.25$; $SD = 7.35$; $p = .006$).

A significant age and time interaction was also found on internalising syndrome, $F(4, 92) = 3.50$, $p < .05$. Specifically 13 years' follow-up test scores ($M = 9.66$; $SD = 6.61$) was significantly lower than post-test ($M = 10.42$; $SD = 6.88$; $p = .002$) and pre-test scores ($M = 11.71$; $SD = 8.56$; $p = .012$).

A significant school type and time interaction was also found on internalising syndrome, $F(2, 47) = 4.96$, $p < .05$. Specifically mainstream school follow-up test score ($M = 9.15$; $SD = 8.46$) was significantly lower than post-test ($M = 9.61$; $SD = 5.13$; $p = .002$) and pre-test scores ($M = 11.31$; $SD = 6.52$; $p = .005$).

Table 7:6 shows the means and standard deviations of the internalising problems in terms of gender, age and school type.

Internalising Problems		Pre-test Mean (SD)		Post-test Mean (SD)		Follow-up Mean (SD)
Female Male		10.81 (5.86) 9.25 (7.35)		10.04 (4.98) 8.92 (6.35)		9.86 (4.71) 7.46 (5.95)
11 years 12 years 13 years		8.14 (3.91) 9.13 (5.51) 11.71 (8.56)		7.50 (2.87) 9.80 (5.95) 10.42 (6.88)		7.46 (3.60) 7.73 (5.36) 9.66 (6.61)
Mainstream School Pupil Referral Unit		11.31 (6.52) 8.46 (6.74)		9.61 (5.13) 9.21 (6.48)		9.15 (4.86) 7.83 (6.19)

7.6.2. Externalising Problems

There was a significant interaction between time and gender, $F(2, 47) = 6.93$, $p < .05$ on externalising behaviors. Specifically males' follow-up test scores ($M = 7.32$; $SD = 5.52$) were significantly lower than post-test ($M = 7.60$; $SD = 4.62$; $p = .000$) and pre-test scores ($M = 8.14$; $SD = 5.04$; $p = .000$).

A significant age and time interaction was also found on externalising problems, $F(4, 94) = 5.85$, $p < .05$. Specifically 12 years' follow-up test score ($M = 8.80$; $SD = 2.62$) was significantly lower than post-test ($M = 9.26$; $SD = 2.54$; $p = .000$) and pre-test scores ($M = 10.20$; $SD = 3.21$; $p = .000$).

A significant school type and time interaction was also found on

externalising problems, F(2, 47) = 6.31, p < .05. Specifically mainstream school's follow-up test score (*M* = 9.92; *SD* = 3.91) was significantly lower than post-test (*M* = 10.07; *SD* = 3.97; *p* = .000) and pre-test scores (*M* = 11.23; *SD* = 4.18; *p* = .000).

Table 7:7 shows the means and standard deviations of the externalising syndrome in terms of gender, age and school type.

Externalising Syndrome		Pre-test Mean (SD)		Post-test Mean (SD)		Follow-up Mean (SD)
Female Male		18.81 (6.60) 8.14 (5.04)		11.77 (6.47) 7.60 (4.62)		11.77 (6.47) 7.32 (5.52)
11 years 12 years 13 years		9.85 (5.18) 10.20 (3.21) 10.42 (8.29)		8.46 (4.79) 9.26 (2.54) 10.09 (7.94)		8.64 (4.79) 8.80 (2.62) 10.04 (7.93)
Mainstream School Pupil Referral Unit		11.23 (4.18) 9.08 (7.73)		10.07 (3.97) 8.75 (7.37)		9.92 (3.91) 8.58 (7.43)

7.6.3. Other Problems

There was no significant interaction between time and gender, F(2, 52) = 3.13, p > .05 on other problems.

A significant age and time interaction was found on other problems, F(4, 104) = 8.82, p < .05. Specifically 12 years' follow-up test score (*M* = 6.40; *SD* = 2.87) was significantly lower than post-test (*M* = 6.86; *SD* = 2.69; *p* = .000) and pre-test scores (*M* = 8.80; *SD* = 3.76; *p* = .000).

A significant school type and time interaction was not found on other

problems, $F(2, 52) = 1.25$, $p > .05$.

Table 7:8 shows the means and standard deviations of the externalising other problems in terms of gender, age and school type.

Other Problems		Pre-test Mean (SD)		Post-test Mean (SD)		Follow-up Mean (SD)
Female		6.55 (3.40)		5.92 (3.07)		5.85 (3.02)
Male		6.50 (5.00)		5.32 (4.08)		5.03 (3.97)
11 years		5.57 (2.38)		5.10 (2.30)		5.05 (3.36)
12 years		8.80 (3.76)		6.86 (2.69)		6.40 (2.87)
13 years		5.76 (5.33)		5.19 (4.85)		5.09 (4.67)
Mainstream School		11.23 (4.18)		10.07 (3.97)		9.92 (3.91)
Pupil Referral Unit		9.08 (7.73)		8.75 (7.37)		8.58 (7.43)

7.7. Brief feedback received for the intervention programme (clinical sample)

All groups who participated were invited to provide feedback, for the clinical sample who participated in all measures and the Intervention group, the following feedback was received:

> *"First of all, I wanted to say thank you for your hard work and effort in delivering the pilot CBT class sessions. The students who did engage in the session took something from it and I know that in the future some of the techniques learnt from the session can benefit them on their life journey, if they choose to use it. Your presence and knowledge were most welcome, and I hope that in the future, you can visit the PRU and see the*

impact of your work. The feedback we received from students today proved that they understood the concept of Cognitive Behavioural Therapy (CBT) which is a success within itself. Towards the end of this workshop I could not help but notice that there is one thing that the students cannot deny, and that is they are all responsible for their behaviour and within them, is the capacity for change. As you are aware, the single factor to changing an Individual's maladaptive behaviour is for the individual to be aware of the negative contribution that they are making towards it. Delivering this type of workshop to students with behavioural difficulties is challenging within itself, however, you were able to build a healthy relationship with the students (and staff), helping them to reflect on their behaviour and more importantly, encouraging them to believe that despite the poor choices they have made in regards to their behaviour-each and every one of them has the option of making the correct choice. Again, on the behalf of the PRU staff and pupils I would like to say thank you, good luck for the future and you will always be welcome here at any time."

Based on this and similar feedback the following ideas were formed:

What went well:

- Relaxation techniques
- video clips
- students being able to engage without feeling judged
- Improvisation if the lesson was not going according to plan

- Interaction with the Various Games and calming methods
- Participation from students
- Students becoming aware of the positive and negative choices they have

Also, from feedback the following Adaptations needed to be considered and implemented:

- Seating Arrangements- instead of students being spread throughout the classroom, the students will fare better if seated around a large table (s)
- Group Dynamics - age - students should not be mixed with those from a different year, Alpha male/female - it is important to assess which student has the most influence within the group and if need be, instruct that student to take a more responsible role within the class or maybe one to one work could be a better option.
- Relaxation techniques still be implemented at the start of each session and half way through the class if the student (s) seem to be losing interest.
- Video clips to be more relevant and shorter
- Group chart to help the student monitor their progress
- Reward system to encourage the student about the benefits of correct behaviour
- Questionnaires to be shorter so the students are not discouraged from by volumes of intrusive questions
- The delivery from the facilitator needs to shorter and more relevant

7.8. Discussion

The main aim of the current study was to examine the efficacy of the newly adapted transdiagnostic CBT-based programme SSL-A on adolescent's internalising and externalising problems. An added aim was to examine SSL-A effect on the intervention groups adolescent's hostility attribution bias and antisocial behaviour. It also aims to examine the moderators for change of symptoms (gender, age, school type) in the intervention group data on the internalising syndrome, externalising behaviours, and other problems.

7.8.1. Primary Findings

The findings could be summarised as follows: In support of the first hypothesis, SSL-A was found to be effective in decreasing internalising syndrome and externalising symptoms in the intervention group, compared to the control group. Our results clearly showed that the internalising syndromes including somatic complain subscale and externalising behaviour score for the intervention group decreased from post-test to the follow-up period, while the score for the control group stayed within the same range. The SSL was also found effective on other problems including thought problems. This is like past research by Burton, (2006); Fossumet al, (2008); Ruttledge and Petrides, (2011); Squires and Caddick, (2012) that adolescents with BP respond positively to CBT interventions.

With regards to group impact, children who participate in the SSL-A reported a lower level of problems HAB at 6 months to follow up after the intervention. The mean and standard deviations identified changes in the intervention group only, which indicates that children who participated in the SSLA did reduce their

psychopathological HAB behaviour greater than the control group at 6 months follow up. These results showed a significant group difference between children who participate in the SSL-A programme compared to those in the wait-list control group at 6 months follow up only. This finding showed that HAB was reduced after the CBT techniques at T3 (6 months follow up) that reduce judgment and decision-making errors, which may be an important factor to reduce behaviour Problems (Orobio de Castro et al, 2002).

Gender showed a significant interaction between time and group, whereby males showed a significant reduction over time on both internalising syndrome and externalising behaviours after the intervention. The moderating effects of gender on behaviour found in this study is in line with previous research whereby boys showed a reduction over time on BP greater than girls after the SSL- A intervention (Kendall and Choudhury, 2003).

Similarly, age moderated the effect over time for internalising (for 13-year olds) and externalising syndrome and other problems over time (for 12-year olds) with lower post-test scores, thus confirming in line with Kendall and Choudhury, (2003) the moderating effects of age on treatment outcomes. School type (community or clinical) and time (T1; T2; T3) together had a moderating effect on both internalising syndrome and externalising behaviour. Specifically, community school type on follow-up test scores (T3) was significantly lower than post-test (T2) and pre-test scores (T1). The smaller effect on BP for the clinical sample could explain the differences previous research whereby Lochman (1992) found that CBT has limited effects on BP, the larger effect on

Community sample on BP could be similar to that found in other studies such as Burton, (2006); Ruttledge & Petrides, (2011); Squires and Caddick, (2012).

Overall children who went through the SSL-A (life skills) programme decreased in their levels of behaviour problems over time, specifically on the DSM self-report, measure. This significant decrease in behaviour Problems (ASB) over time (T1 to T3) and other comorbid factors was only in the intervention group.

7.8.2. Strengths

The major strength of this study was that the SSL was developed specifically for the 11 to 17-year old's, with problems related to behaviour Problems and co-morbid risk factors such as HAB; internalising/externalising. The study took place in the natural environment, i.e., within the school setting and its transdiagnostic approach ensures that those with disorders who were not engaging in any other treatment despite being eligible for CAMHS treatment received an appropriate intervention (Meltzer, Gatward, Goodman, & Ford, 2000). Additionally, supporting previous research, specifically in the clinical sample there are a significant number of youth whose parents were (according to teaching staff) dysfunctional or unwilling to engage, so the school-based intervention approach may be the only option (Gottfredson et al., 2000), Supporting Wilson and Lipsey, (2007), these universal programmes delivered to all students in a classroom were accessed by the highest number of students targeting multiple traits at the same time.

7.8.3. Interpretation of Findings and Future Directions

To conclude, although children who participated in the SSL-A (life skills) programme did show a significant reduction in known risk factors for BP, with significant differences found in the outcome variables among children in the intervention compared to the wait-list control groups. Furthermore, the significant complex interaction of risk factors was highlighted that are to be targeted for the successful the prevention and intervention of behavioural problems in children.

Future studies could compare the wait-list condition after it undertook the programme (SSL-A – life skills) at for example T4 to the first intervention group, to enable further robust comparisons. This may further help to increase and strengthen results to enable the widespread application of the findings.

In terms of the participants' satisfaction of the SSL-A (life skills), both children and their teachers evaluated the programme as incredibly positive. The schools reported increased competences in the children who took part in the programme and supported its implementation. Future work, however, should include the direct assessment and evaluation of school satisfaction. In addition, the utilisation of equal control and experimental groups from different economic and cultural backgrounds could reduce many existing limitations of generalisability.

7.8.4. Research Implications

Based on the current findings, future studies should consider the inclusion of this programme in all school settings as a taught lesson for all in PSHE education, as a valuable practice for the reduction of the development and maintenance of behaviour problems. Additionally, CAMHS services could use this as an entry point for the treatment of all non-urgent presentations to enable better management of the extensively long wait lists for treatment within CAMHS.

GENERAL DISCUSSION AND CONCLUSION

8.1. Overview

This Chapter begins with a synthesis of findings across all the studies, then a summary of all results by study, these are then interpreted and related to the existing literature. Subsequently, the general limitations of the research are then discussed. This Chapter formerly examines the clinical relevance of the findings. Lastly, suggestions for future research are proposed.

8.2. Summary of Findings

8.2.1. synthesis of findings across studies

The four studies developed into a picture of the presentation of problem behaviour (BP) and the presentation of the other risk factors such as CU traits; problems in executive functioning and mental health problems with BP to enable the Super skills for life adolescent (SSL-A) version to be adapted to target these across both clinical and community settings simultaneously. As problem behaviour is a multifaceted concept, study one (chapter 3) enabled us to investigate the main risk factors for problem behaviour using previous research as a guide but trying to extrapolate the most relevant features to enable a comparison of a clinical and community samples within the same study. This study enabled us to look at specific family and other factors that might also be characteristics of both youth in the community and clinical settings or unique to only one setting. Some interesting but shocking findings were that every person

in the clinical sample had seen someone get shot or stabbed, sometimes more than once. Following on study two (chapter 4) explored the link between behaviour problems and Callous and Unemotional (CU) traits, exploring high CU traits with problem behaviour. This was relevant as in the past youth with high BP and CU traits have been found to be treatment resistant if these traits weren't first identified and the intervention/treatment adapted accordingly. Interestingly however high CU traits with no BP or comorbid risk factors , led to CU traits becoming a protective factor (successful Psychopathy).Study 3 (chapter 5) allowed us to explore how executive functioning (EF) deficits, impacted BP and highlighted that participants with EF deficits may take longer to integrate new information and have higher BP. By evaluating the future program at three time points pre (T1); Post (T2) and six months follow up (T3), changes that may be delayed due to EF deficits may show up at T3. Study 4 (chapter 6) was important as BP do not occur in isolation and comorbidity of other mental health issues is extremely high. Interestingly this was both externalising and internalising mental health factors. identifying the comorbid factors that occur with BP will enable us to adapt the program to ensure these features are covered and also enable us to measure theme in evaluating the program. This is important as a reduction in co morbid mental health problems is likely to attribute to not only a deduction in BP but enable this to be sustained over time. All of the previous studies led to the final study, (study 5, chapter 7), whereby the newly adapted SSL-A, could be delivered and evaluated. As the most relevant risk factors had been highlighted and used to adapt the program, these could then be measured at pre (T1); Post (T2) and six months follow up (T3), to identify any reductions after the program over time. Reductions were found in both BP and

CU traits as well as other co morbid factors, highlighting the success of the transdiagnostic program. All the studies led to the targeted use of the program and its evaluation specifically related to BP and associated factors.

8.2.2. Study one (chapter 3)

Study one (chapter 3) looked at the aetiology and epidemiology of Conduct disorder (CD) and associated behavioural problems (BP), in general as this is the main reason teenagers become referred to child and adolescent mental health services. To identify the risk factors for BP the following measures were used: the Youth Inventory 4 (YI-4) as a measure of behavioural problems (used to diagnose CD & ODD) and the SAHA to measure antisocial behaviours, both measures seem to look at the same issue in a different way and are both cited in previous research on behavioural problems. Study 1 (chapter 3) also wanted to identify if there was difference in BP risk factors across setting in community and clinical samples, Additional demographic information such as age; gender; ethnicity and other measures of Social economic status (SES) were then compared to those for risk of BP.

Study one (chapter 3) results showed that gender and specifically boys, supporting earlier research by Blair, Leibenluft, & Pine, (2014), had a higher prevalence of ODD and CD in both community and clinical settings. Differences were discovered in ethnic group, although clearer investigation would need to be conducted, including excluding SES (social economic status) as an added factor behind any findings in relation to Ethnicity.

When further analysis was carried out low SES showed a difference in group (clinical or community), as expected clinical groups showed an increase in behaviour problems, supporting Costello et al, (2003) and Enebrink et al., (2005) whose research showed an overrepresentation of CD in lower SES. Also, specifically in the clinical group, age in addition to ethnicity meant an increase in BP, similar differences appeared in the community group, but for a much lower level. However further, post-hoc analysis of BP between the clinical and the control group highlighted this was only in gender and ethnicity, but not with age. These results are important as negative, hostile, and defiant behaviours can lead to later serious conduct disorder and serious externalising disorders. Earlier studies by Farrington, (1989) & Moffitt, (1993) highlighted that these behaviours are also a major risk factor for later juvenile delinquency, violence, and adult crime. So early identification is key to preventing these negative life course outcomes.

8.2.3. Study two (Chapter 4)

Study two (chapter 4) also aimed to explore the prevalence of behavioural problems (delinquent/externalising behaviour), but this time both with and without the presence of Callous Unemotional (CU) traits and additionally identification of any other relevant co-morbid factors (e.g.: impulsivity; mental health problems; type of aggression; peer relations etc.) among adolescents in clinical and community samples. It also looks at once again to see if there are

differences across setting from community and clinical samples. It also compared the prevalence of adolescent's type of CU traits and behavioural problems, looking at both successful and unsuccessful psychopathy. This helps us expand the presentation of risk factors for behavioural problems and co-occurring mental health problems and include whether CU factors are present and whether they are in the form off successful or unsuccessful psychopathy and any differences this may highlight.

This studies results showed that BP (antisocial behaviours/ conduct problems) on their own were associated to MHP such as somatic complaints; anxious and depressed symptoms in line with internalising behaviours and only with the more severe externalising behaviours such as aggression, delinquency, social problems; attention problems and rule-breaking behaviours (Essau, Sasagawa, & Frick, 2006a; Kimonis et al., 2008a; Lawing, et al, 2010). As expected, and in line with previous research, CU traits and BP (antisocial behaviours) were highly correlated, so as CU traits increased so did BP (antisocial behaviours) and vice versa (Essau, Sasagawa, & Frick, 2006b).

Further analysis revealed that somatic complaints; anxious/depressed; social problems; thought problems; attention problems; rule breaking behaviours; aggressive behaviours CU traits and behavioural problems interacted with each other. This once again is line with previous research by Dadds, et al, (2005), which highlights the complexity of the two-way interaction between CU traits and Behavioural problems that varies across levels of the third variable which is made up of internalising (Somatic complaints; anxious/depressed; social

problems; thought problems; attention problems) and externalising (rule breaking; aggressive behaviours), (Essau, Sasagawa, & Frick, 2006a; Kimonis et al., 2008b; Lawing, et al, 2010).

In a few cases, as with high internalising and externalising behaviours when BP (antisocial behaviour) decreased, there was still a high presence of CU traits. These results show that CU traits without problems behaviours are still affected by internalising and to a lesser extent externalising factor. Here the CU traits represent a high-risk group of antisocial youth with a particularly severe pattern of behaviour problems, not found with typical levels of CU traits this first outcome supports previous research by Frick, Ray, Thornton, & Kahn (2013 & 2014a&b) & Frick & White., (2008). However, the second outcome of this study is more in line with successful psychopathy and with the differential-configuration model, which states that successful psychopathy is a different configuration of personality traits (which include boldness and conscientiousness), than in unsuccessful psychopathy. This model presumes that psychopathy is a combination of two or more distinct traits rather than one construct and that successful and unsuccessful psychopathy differ in their individual traits, this seems to be in line with the findings in the present study (Viding and McCrory, 2012).

Study two findings supported a higher prevalence of behaviour Problems and CU traits in the clinical when compared the community sample. In addition, the findings highlight, that the role of both High CU and low CU traits combined with antisocial behaviour presence or not is complex. The secondary aim of this

chapter to explore whether high CU traits and low antisocial behaviour is a distinct concept meaning that CU traits is a spectrum with both successful and maladaptive outcomes with the presence of high antisocial behaviour being the defining element. The result seems to show that high CU traits and low antisocial behaviour does have an impact on psychosocial functioning, although further research must decide how this occurs

8.2.4. Study three (chapter 5)

This study number 3 (chapter 5) used an experimental design to compare executive function (i.e., impulsivity, cognitive shift, and attention) in a subsample of both the community and clinical samples from Study 1, 2 & 4. This adds to the previous studies whereby the complex presentation of risk factors for BP (including and co-morbid mental health problems with and without CU traits and successful or unsuccessful psychopathy) but adds executive function (EF). By including EF, we can see if this shows any additional information of the overall risk factors and comorbid traits of behavioural problems and if this caries across setting.

Overall, the findings showed an elevated level of executive functioning problems and impulsivity across both community and clinical settings, but as expected this was higher for the clinical when compared to the community setting. Furthermore, when looking at CU traits split between high and low, Higher CU traits are associated with higher levels of Impulsivity; ASB (behavioural problems) and executive functioning problems. This supports previous research by impulsivity Herba, et al, (2010); Blakemore & Choudhury, (2006) and

Vriezen & Pigott, (2002) that EF is the control centre, managing the self-control and self-regulation functions of the brain which includes impulsivity.

This study showed adolescent with BP (conduct problems) had poorer test results for executive functions supporting previous research findings by Ishikawa & Raine, (2003); Lynam & Henry, (2001); Moffitt (1993); Nigg, (2000) and Hobson et al, (2011). The clinical group had higher rates of BP and EF problems when compared with the community group. This supports earlier research that EF is a multidimensional construct covering higher-order cognitive processes that regulate a person's behaviour and thoughts (to act in a goal-directed manner), highlighting the importance of self-control in relation to conduct problems (Herba, et al 2010; Blakemore & Choudhury, 2006; Vriezen & Pigott, 2002).

Efforts to enable improvement in EF through appropriate interventions should enable the achievement of goals through using the correct and effective actions by learning to relate passed actions to possible future goals and self-monitoring to enable inhibition of inappropriate responses as EF includes both cognitive and emotional components (Zelazo, Müller, Frye, & Marcovitch, 2003).

Our results also showed that high executive functioning deficits; impulsivity and BP were associated with high CU traits. These results support findings by Frick et al., (2003a&b), whose earlier research found that CU traits combined with aggressive behaviours are associated with social development deficits (i.e., social cognition).

8.2.5. Study four (chapter 6)

Study four (Chapter 6) highlighted the co-morbidity of Mental health problems (MHP) and associated behavioural problems (BP). This study number 4 (chapter 6) focused on the prevalence and correlates of mental health and behavioural problems in community and clinical samples and identified a high prevalence of this type of co-morbidity (MHP & BP), supporting earlier research by Andrews et al., (1999), Merikangas et al., (1998) & Hall, (1996) . This guides us when considering the presentation of multiple risk factors for BP and MHP to not try to treat or consider them in isolation of each other. The results highlighted a different presentation of these two risk factors (BP & MHP) across setting. Clinical samples had a higher presentation of externalising types behaviours whereas community settings showed more internalising type behaviours. Previous research on adult populations (Robins & Moffitt, 1991), highlighted a high co-morbidity of BP and MHP in addition to adolescent studies, and that the presentation of these two combined disorders can vary in-line with this study results. To summarise this study showed a positive association between behaviour problems and mental health problems in line with previous research by Hinshaw (1987). The relationship between behaviour Problems and mental health problems, indicated that as behaviour Problems went up so did rule breaking problems and aggressive tendencies, also as behaviour Problems went up social skills went down, supporting previous literature by Achenbach & Edelbruck, (1978) and Hinshaw, (1987), these are indicative of the DSM- IV disorder of oppositional defiant disorder (APA, 2000).

This helps us inform future interventions by providing a picture of the presentation of risk factors for behavioural problems and co-occurring mental health problems across settings and enabling to evaluate the interventions success.

8.2.6. Study Five (chapter 7)

The final study number 5 (chapter 7) implemented the pilot study of the adapted transdiagnostic intervention ('Super-skills' programme) for adolescents (SSL-A). Its aim was to evaluate the efficacy in treating this adolescent age group (11-17 years) and whether it reduced BP and other identified co morbid risk factors in a subsample of adolescents from the clinical and community settings. Participants were randomly assigned to either an intervention (SSL-A) or a wait-list control group. The results of the completed set of questionnaires (study1, 2 & 4) and experimental tasks (Study 3) where compared from pre-, post and 6-month follow-up (T1; 2 & 3). The results across the three time points (T1; 2 & 3) of both the intervention and control group, showed a positive impact on children's behavioural problems for the intervention group. Adolescents who went through the SSL-A (life skills) programme showed a significant decrease of behaviour problems and mental health problems from T1 to T3 with/without CU traits. These finding are in line with earlier studies as those with higher BP with CU traits represented a distinct group with a more severe, aggressive and early onset of behaviours, without identification and subsequent intervention adaption, this group shows a poor response to typical treatments which would likely cause

significant distress and impairment in major areas of their life (Frick et al. 2013; Frick & White, 2008). Study 5 results also supported the use of a transdiagnostic intervention as the clinical sample although they had significant BP problems refused treatment other than the transdiagnostic program as they engaged with it with school support (Meltzer, Gatward, Goodman, & Ford, 2000). This highlights earlier research whereby within the clinical sample there are a significant number of youths whose parents were (according to teaching staff) dysfunctional or unwilling to engage, so the school-based intervention approach may be their only option (Gottfredson et al., 2000). Additional this supports earlier research by Wilson and Lipsey, (2007), that these universal programmes delivered to all students in a classroom were accessed by the highest number of students and targeting multiple traits at the same time.

The Cognitive behavioural (CBT) approaches that were used, highlighted both the universality and adaptive reasoning of this approach which were deemed as the indicators of its success. The results are due to CBT enabling participants to solve problems relating to dysfunctional emotions, cognitions, and behaviours with a goal-orientated, systematic procedure which are the main approaches are useful for targeting multiple areas such as cognitive reorganisation, relaxation exercises, exposure to feared situations, and reinforcement of these new learnt behaviours as cited by earlier research by Hitchcock, Chavira, & Stein, (2009).

Furthermore, the significant complex relationship between BP and other risk factors was highlighted in this timepoint comparison. The findings further emphasise the importance of identifying factors such as gender, age and setting

(clinical or sample) when developing and evaluating the prevention and intervention of behavioural problems in children.

Consequently, this enhancement of social and emotional skills seems crucial in the prevention and intervention of Behaviour Problems and co morbid factors and has contributed to the positive results of the 'SSL-A (life skills)' programme.

To our knowledge this was the first programme that combined these components in a preventative, brief, and transdiagnostic school-based approach, simultaneously across two settings (clinical & community).

8.3. Limitations of the Thesis

A few limitations of this thesis brand its findings as suggestive and not conclusive, therefore future research should try to overcome these limitations. It is suggested that by investigating in greater depth the risk factors involved in adolescent behaviour problems and co-morbid factors such as mental health problems; CU traits and executive function problems to identify the causal relationship between them. Although each chapter has discussed its studies limitations specifically, a few more general limitations are now discussed and suggestions that may overcome these.

The findings of the present thesis (Studies:1;2;3;4 & 5) should be interpreted within the context of its limitations. First, the fact that the present study was conducted in the south west of London only, may be viewed as a limitation as it restricts the widespread application of results, considering that it is not representative of other areas in the UK. A future study could replicate this study

and add a comparison study between London and another city with the UK or another country simultaneously, to identify any differences these groups may have in both risk factors and treatment response.

Furthermore, the nonsignificant findings may be due to unidentified interactions between the considerable number of measures. Highlighting the prominent measures needed will decrease the number of questionnaires to be used which could be useful in future studies to avoid participants spending too long responding. This may further help to increase and strengthen results to enable the widespread application of the findings.

Findings were limited to the use of self-report measures, which are known for low levels of participant self-awareness, response biases, and social desirability limitations.

Despite these limitations there are strengths for self-report measures, however with their use in so many studies revealing conflicting information, future studies should include qualitive measures and teacher reports or academic performance/behavioural logs to provide support for the self-report measures. However, the self-report method is known to be the most cost effective and fast process of data collection.

In relation to the intervention study a limitation was that no booster sessions were given to participants. Future programmes should offer top-up sessions, every month after the initial intervention is completed for a 6-month period. These additional sessions would emphasise and reinforce the skills and

techniques that were taught to support positive outcomes over an extended time. Additionally, an increase of sessions may produce more enduring change and cognitive re-integration.

As, Chapters 3, 4 and 6 for studies 1, 2 & 4, were cross-sectional studies, the main limitation is the inability design a further development of a psychopathological framework of BP with CU traits; mental health problems. Identifying the longitudinal trajectories of adolescents' BP and co-morbid factors over a longer period may help to clearer their associations.

Chapter five the experimental design (study three) there was a few issues with the Inquisit software used for this study and with my inexperience as a researcher using this software online or offline in a school setting. were additional practical limitations of not having enough computers to use or being able to by-pass the restrictions in using an online outside website (Inquisit) to access the experimental design program.

Future studies should look at a larger sample to enable a comparison across age groups in adolescence to highlight any obvious age differences that could be due to adolescent development related to puberty or cognitive changes. Thus, being able to highlight similarities or differences between all ages (12 to 17 years old) could be extremely beneficial on identifying anything that is an age specific risk factor.

A Further investigation into the causal relationship between SES and ethnicity as our results showed a Significant association between these factors and adolescent BP is warranted to help support other protective factors that may lessen or understand the effect they may have.

Future research on early intervention should be expanded on how to interrupt the path of PB with/without CU traits in adolescents at risk (a) include parental and teacher reports, (b) cut down the number of questionnaires used and use online questionnaires (c) include qualitative data (testimonials/video recordings – pre-post intervention) (d) include approximately two sessions of parenting training (e) details of the diagnosis of the clinical samples, (f) utilise behaviour log reports and academic performance to enable comparisons across time, (g) use an experimental measure for CU traits. These items will ensure that a more detailed analysis can be carried out and using qualitative measures will give more subjective information and richness.

Also, an interesting future comparison would be to compare the effectiveness of the school based transdiagnostic groups and groups in CAMHS settings at primary mental health level to identify any effects within setting. An interesting future focus would be to add a top up session within schools every 6 months to be facilitated by the school staff, this would ensure that the skills learned could be revisited and expanded whilst also reminding the adolescents of the skills required. Top up sessions would ensure as much as possible that the skills can be sustained over time.

8.3.1. Strengths

When considering the significance of the findings that have been addressed in this discussion, it is essential to look at the practical benefits the 'SSL-A (life skills); programme had on the participants, and the strengths of the current study, despite the limitations and unexpected findings discussed. The effectiveness of the programme was measured using a direct comparison between a control and intervention group, in line with the principles of strong research. The improvements that were showed in children's levels of behavioural difficulties, and CU traits are of high importance. The current study aims to encourage future research directed at finding ways of reducing the development of BP with and without CU traits. Consequently, the findings of this study are original, in terms of important components that should be considered and researched further in prevention programmes for BP and co morbid factors. They are relevant to current research concerning the rising numbers of young individuals that are dealing with BP.

The present early intervention programme is unique, in that it takes a multi-dimensional approach. Children are provided with a variety of social skills to enable them to create an effective tool kit for dealing with challenging situations by building on a sound theoretical basis, grounded in successful CBT principles, thereby bringing together theory and practice.

By enhancing children's awareness and understanding, which is essential for the development of the skills that supply interpersonal, academic, and health

enhancements that allow individuals to have a more enriched life. Therefore, the newly adapted SSL-A (life skills) programme is designed for a community and clinical sample. Moreover, the current prevention offers a small piece of each training component in a preventive fashion to provide participants with coping skills for future socially and/or emotionally challenging situations.

The main strength of the current study is, therefore, that the follow-up allowed the assessment of programme benefits over time. A longitudinal design enables the observation of any changes in the various parameters after a six-month period and despite the shortness of the programmes, similar time frames have been used effectively in earlier. The psychoeducational approach and involvement of school staff supports the accessibility of programmes.

The findings of the present study support the notion that the combination of the CBT and mindfulness, upon which the programme has been based, contributes to the possible prevention of BP. This is in line with previous research supporting the benefits of this combination. Implementing CBT techniques that are aimed at interpretation biases and teaching cognitive adaptation strategies as well as social and emotional skill enhancements strategies, provide children with necessary abilities to reduce the risk of BP.

Based on the current findings, future studies should consider the inclusion of this programme in all school settings as a taught lesson for all in PSHE education. This has been proven to be a valuable practice for the reduction of the development and maintenance of behaviour problems.

Future research should therefore evaluate the current programme with similar levels of PN and CU traits in each setting to begin with and aim to ensure more equal participant numbers in each condition. Hence, further examination is called for, to increase the benefits of prevention programmes, such as 'SSL-A (life skills)', in the future. Moreover, the inclusion of qualitative assessments and analysis, as well as parents' experiences of their children, and children's own experiences may enhance our current understanding of how challenging situations are perceived, which in turn could contribute to the refinement of programmes, such as the SSL-A (life skills).

8.4. Practical Implications and Future Research

High problematic traits and behaviours, such as BP or CU traits, is not always a direct indicator of developing persistent and serious BP (Moffitt et al., 1996), future studies should continue trying to identify those who will or will not develop ASB. By looking at CU traits as a spectrum of behaviours like Autism we may be able to find the distinct make up of these behaviours to better inform interventions. This would need longitudinal studies to look at variation in ages and gender and if they are persistent, and also cross-cultural differences to inform targets for preventive interventions.

8.5. Implications of the Thesis

8.5.1. Service uptake and adaptations

As well as the implementation of the SSL-A (life skills) programme in this study, a pilot study within a Child and Adolescent Mental Health Service

(CAMHS) clinic at Primary mental health team (PMHT) level will trial this programme to establish its suitability in a CAMHS clinic setting in primary care mental health services. Also the Haven crisis services within CAMHS are piloting the program for repeat attendings to the crisis drop in as a way of moving them forward and equipping them with skills.

Training sessions and supervision have been offered and the potential to be adapted for different populations is being considered (i.e.: Autism).

These are all exciting developments for the SSL-A program.

8.6. Manual

A complete manual has been developed as well as a workbook for the adolescents, the manual was used to support delivery. This will enable easy future training and consistency in the implementation of the program.

8.7. Clinical implications

The five studies within this thesis have a number of implications for clinical practice and supply evidence that transdiagnostic interventions are effective for common mental health problems and addressing multiple and co-morbid problems within one intervention in clinical practice.

8.8. Summary

The overall aim of the current research was to compare the prevalence of behavioural problems among adolescents in both clinical and community settings. Additionally, to explore the co-morbid factors such as mental health

problems and presence of CU traits (successful versus unsuccessful psychopathy) and executive functioning problems (impulsivity, cognitive shift, and attentional bias) which might be associated with behaviour problems. These findings informed the adaption of the SSL transdiagnostic group-based intervention programme. (Williams & Kerfoot, 2005), for use among adolescents (12-18 years).

Despite a large body of research in this field, many existing treatment programmes have focused on either clinical or community samples separately and not simultaneously that will allow the examination of factors in these two settings. Thus, the current thesis looked to contribute to research in this field with a more in-depth insight of the influential factors in the field of behaviour problems, CU, and EF problems. This would further highlight the importance of

CBT-based programmes, as well as, enable the refinement of the existing and the development of new, efficient, prevention and intervention programmes. This thesis presents a significant substantial contribution to the existing literature on transdiagnostic interventions. The comparison of this cohort from both a clinical and community setting in question highlight the flexibility of a transdiagnostic group.

APPENDICES

Appendix 1: **Ethics approval; Application Form and risk assessment.**

Appendix 2: **Letter & Consent for Institutions.**

Appendix 3: **The Social and Health Assessment (SAHA; Ruchkin, Schwab-Stone, & Vermeiren, 2004).**

Appendix 4: **Drug Use Survey**

Appendix 5: **Youth Self-Report (YSR; Achenbach, 1991)**

Appendix 6: **Attribution Bias Regarding Relational Provocation (Crick et al., 2002)**

Appendix 7: **The Youth Inventory of Callous-Unemotional Traits. (ICU Youth, Frick, 2004)**

Appendix 8: **The Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965).**

Appendix 9: **Impulsive-Premeditated Aggression Scale (IPAS; Stanford et al., 2008)**

Appendix 10: **The Toronto Empathy Questionnaire, (TEQ; Spreng et al,2011)**

Appendix 11: **The Inventory of Peer Attachment (Peer only part of Inventory of parental and peer attachment – IPPA; Armsden & Greenberg, 1987)**

Appendix I: Ethical Approval

Ethics Application Ref: PSY 14/ 141

Jan Harrison email confirmation of ethics approval received 27/11/14.

Ethics Application

Applicant: **Sharon Allan**
Title: **Antisocial Behaviour among Adolescents in London: From Frequency to Prevention (participant documentation – Adolescents belief of risky behaviour).**
Reference: **PSYC 14/ 141**
Department: **Psychology**

Many thanks for your response and the amended documents. Under the procedures agreed by the University Ethics Committee I am pleased to advise you that your Department has confirmed that the conditions for approval of this project have now been met. However, please note the comment and minor conditions below.

Comment:

We note your confirmation that should you become aware of any information relating to a risk of serious harm then this will be passed on according to the relevant organisation's policies.

Minor Conditions:

10. Condition xviii – appx 2: the final sentence should read "Please note: if you have a concern about any aspect of your participation or any other queries please raise this with the investigator (or if the researcher is a student you can also contact the Director of Studies). However, if you would like to contact an independent party please contact the Head of Department." Please amend accordingly. We note you have added this on page 2 rather than amending the original sentence on page 3. Please delete what you have added in and do the amendment as suggested.

ii. Condition xxii – appx 13: P25: please add a space for the child's name. This should be page 23 not 25. Please add this to page 23 as suggested

As these are only minor conditions it is assumed that you will adhere to these conditions for approval and therefore, we do not require a response. We do not require anything further in relation to this application.
Please note that on a standalone page or appendix the following phrase should be included in your thesis:
The research for this project was submitted for ethics consideration under the reference PSYC 14/ 141 in the Department of Psychology and was approved under the procedures of the University of Roehampton's Ethics Committee on 27.11.14.
Please advise us if there are any changes to the research during the life of the project. Minor changes can be advised using the Minor Amendments Form on the Ethics Website, but substantial changes may require a new application to be submitted.

Many thanks,

Jan
Jan Harrison
Ethics Officer, Research Office, Department of Academic Enhancement
University of Roehampton | London | SW15 5PJ
jan.harrison@roehampton.ac.uk| www.roehampton.ac.uk
Tel: +44 (0) 20 8392 5785

University of Roehampton London

ETHICS

APPLICATION FORM

(Staff and Research Students)

July 2014

PLEASE CHECK THE RELEVANT BOX *(NB. Double click on the check box and select 'checked')* MEMBER OF STAFF — RESEARCH STUDENT X (Mphil, PhD, EdD, PsychD) EXTERNAL INVESTIGATOR — STUDENT (Other)** *If you are a transfer student or conducting collaborative research, you may not need to complete this form: please see Section 2.2. of the Guidelines. **If you are on a taught course you do not need to complete this form unless your project is worth more than 50% of your total credits or you have been asked to do so by your supervisor*	
SECTION 1: PERSONAL DETAILS *Please complete the header with your name and Department*	
Name (lead):	Sharon Allan
Other investigators:	Professor Cecilia Essau & Dr. Catherine Gilvarry
Correspondence address:	Mphil/PhD – Psychology
Telephone no:	07903 619636
Email*all correspondence will be sent by email unless otherwise requested)*	sharon.allan@roehampton.ac.uk

FOR STUDENTS ONLY:	
Programme of Study & Department:	MPhil/PhD – Psychology
Mode of study (full-time/part-time)	Part time
Director of Studies & Supervisor: (If you are on a taught course please just give the name of your supervisor)	Director of Studies: Professor Cecilia Essau Supervisor:
FOR EXTERNAL INVESTIGATORS ONLY (please see Section 4.5 of the Ethical Guidelines):	
Name of Academic Assessor:	N/a

SECTION 2: PROJECT DETAILS	
Title *of project:	Antisocial Behaviour among Adolescents in London: From Frequency to Prevention (participant documentatio– - Adolescents perception of risky behaviour). (Please include name of project on participant documentation if different)
Proposed start date: *Please note that approval can take some time. Please submit applications in a timely manner. Reasons should be given for late or retrospective submissions to secure approval.*	01/09/2014 *(Applications should only be submitted retrospectively in exceptional circumstances. These will require the approval of the Chair of the Ethics Committee).*
Duration:	To continue for duration of PhD (end 31/12/16).
Purpose of the proposed investigation: This section should include the material which concisely outlines the rationale for the project, i.e. why this study needs to be done. This should be done in a way that is both accessible and scholarly, i.e. have proper cited sources.	
This ethical approval relates to my PhD research projects that aim to examine the frequency, correlates and stability of antisocial behaviour in adolescents, aged 11 to 17 years. The first study	

will be examined the frequency and correlates of antisocial behaviour. The second study will use an experimental design to examine the association between antisocial behaviour and level of impulsivity.

The third will examine the stability of antisocial behaviour about a year after the first assessment. The same group of adolescents who participate in study 1 will be invited to participate in study 2 and study 3. The fourth study will involve an in-depth interview of 5 professionals who work with youth offenders and 5 ex-youth offenders.

This programme of research is related to the general area of developmental psychopathology (Essau & Petermann, 1997), particularly in relation to studies that examined the prevalence, co morbidity, stability and risk factors of aggressive behaviour, and prevention/early intervention. Research in developmental psychopathology has also reported that anti-social behaviour that develops during childhood and adolescence, when left untreated, tends to be chronic and put these children at risk of developing more serious crimes in adulthood (Essau et al., 2011).

Despite the common occurrence of delinquency among adolescents in the UK, there is still a lack of methodologically strong research on these specific types of anti-social behaviour which could inform the development of prevention and early intervention programmes that are specifically designed for behaviour.

Outline of the project:

This section should include the details of the methods i.e. what will be done and how.

Study 1: Frequency and correlates of anti-social behaviour

A total of approximately 200 children (11- 17 years) will be recruited from schools in Wandsworth who will be asked to complete a set of questionnaires (see below).

They will complete the questionnaires in a group in an agreed room (by the head-teacher) during opening hours. The researcher with a DBS will be present through the duration of the questionnaires completion to answer any questions that the adolescents may have. This part of the study, based on previous experience, will take 30- 45 minutes.

General procedure:

All the measures are age appropriate and almost all of them have been used with this age group in previous research conducted by DoS and her PhD students.

Before beginning the questionnaires, adolescents will be told that they are going to be filling in questionnaires about their views, feelings about themselves. It is important to clarify that their answers are only going to be used to help with the research'r's understanding of what adolescents think and feel about certain things.

Before allowing the adolescents to start the questionnaires, they will be reminded that:

1) there are no right or wrong answers

2) different adolescents will often give different answers

3) their answers will never be shown to any other adolescents

4) they should just answer honestly by saying what is true for them

5) they can skip over any questions that they do not want to answer

6) they can stop doing the surveys if they do not wish to complete them.

7} there is no compulsion or pressure to take part in the project, and that should an adolescent student decline to participate or subsequently withdraw, they will not be adversely affected

After the questionnaires have been completed adolescents will be given a debrief form (see Appendix 14).

Measures:

- *The Social and Health Assessment (SAHA; Ruchkin, Schwab-Stone, & Vermeiren, 2004)* will be used to measure adolescents' involvement in a wide range of antisocial behaviour and related risk of getting involved in antisocial behaviour. The SAHA is one of the most widely used self-report questionnaires to measure antisocial behaviour in large scale studies in several countries, including in USA (Schwab-Stone et al., 1999), Russia (Ruchkin et al., 2004) and Belgium (Vermeiren et al., 2003).

- *Youth Self-Report (YSR; Achenbach, 1991)* will be used to measure mental health problems. Having been translated in 90 languages, the YSR is one of the most widely used questionnaires to measure externalising (e.g. aggressive behaviour and delinquent behaviour) and internalising problems (e.g. anxious/depressed, somatic complaints) (Achenbach, 1991)

- *Hostile Attribution Bias Regarding Relational Provocation (Crick et al., 2002)* will be used to measure adolescent's misinterpretations of social cues as hostile (i.e., hostile attribution biases)

Outline of the project (continued):

Please continue extra sheets if necessary.

- *Youth Self-Report (YSR; Achenbach, 1991)* will be used to measure mental health problems. Having been translated in 90 languages, the YSR is one of the most widely used questionnaires to measure externalising (e.g. aggressive behaviour and delinquent behaviour) and internalising problems (e.g. anxious/depressed, somatic complaints) (Achenbach, 1991)

Hostile Attribution Bias Regarding Relational Provocation (Crick et al., 2002) will be used to measure adolescent's misinterpretations of social cues as hostile (i.e., hostile attribution biases)

- .

- *The Youth Inventory of Callous-Unemotional Traits. (ICU Youth Version Frick, 2004)* will be used to measure psychopathic traits that ar244edicine244n244n244es of lack of empathy. Parents of children as young as 3 years have been found to report the presence of these traits in their children (Dadds et al., 2009).

- *The Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965)* will be used to measure self-esteem.

- *Drug Use Survey* will be used to examine the level of alcohol and drug use.

- *Inventory of Parent and Peer Attachment (IPPA) (*Armsden and Greenberg, 1987) will be used to assess adolescen's' perceptions of their relationships with parents and peers.

- *Impulsive-Premeditated Aggression Scale* (IPAS; Stanford et al., 2008) will be used to measure the reactive-impulsive and/or premeditated-instrumental characteristics associated with an individual's aggressive acts.

  Columbia Impairment Scale (CIS; Bird et al., 1993) will be used to measure psychosocial impairment in four major life domains (interpersonal relationship, school work, use of leisure activities, broad area of psychopathology)

- .

  Demographics will be used to measure age and gender and whether the participants lived with either or both of their parents, ethnicity and socio-economic status.

-

Adolescents in study 1 and study 3 will use the same set of questionnaires as listed above to compare any changes in their anti-social behaviour and factors that predict their stability.

Study 2: Executive functioning and antisocial behaviour
To examine the association between executive functioning and antisocial behaviour, an experimental design using three standardised studies will be conducted.

a) The "Balloon Analogue Risk Task (BART-Y; Lejuez et al., 2002)" will be used to measure risk taking behaviour. This task will be completed on the researcher's laptop where the adolescent will be presented with a balloon and given the chance to hypothetically earn money (not real money) as a cognitive incentive reward gained by pumping the balloon up by clicking a button. Each click causes the balloon to incrementally inflate and pretend money to be added to a counter until the balloon is over inflated and explodes. The adolescents will not be informed about the balloon's breakpoints.

b) *Go/no go task* will be used to measure selective attention and motor response inhibition. The adolescents will be asked to respond to go signals on a computer screen but must inhibit their response when a sporadic stop signal appears. These are immediately followed by go signals.

c) *Delay Discounting* (Richards et al., 1999) will be used to measure delay of gratification. Participants will be given a series of hypothetical choices between a variable immediate amount of money and fixed amount that would be delayed by; 1, 2, 30 180 or 365 days. The amount of immediate reward and the order of presentation vary with participant choices, for each choice an adjusting amount algorithm manages the amount for immediate rewards until it reaches the equivalent value of the delayed reward.

Completion of the computer tasks will take approximately 20 mins. and can be done individually or in a group depending on the number of computers available. Data between these tasks and previous questionnaire data be linked by the [participant number and handled confidentially and sensitively. However, the school will be advised if an adolescent discloses information indicating a risk of serious harm to self and others in accordance

With the school guidelines.

Study 3: The stability of anti-social behaviour

The aim of study 3 is to examine the stability of anti-social behaviour and factors that predict their stability. All the adolescents in study 1 will be invited to participate in study 3. Based on previous studies (Essau, 2004; Essau et al., 2006a&b, 2014), about half (N=100) are expected to participate in the follow-up assessment, (which will be conducted on an average of 12 months after the study 1 assessment) due to attrition. The same set of questionnaires as in study 1 will be administered in study 3.

Study 4: In-depth understanding of anti-social behaviour

The aim of this qualitative study is to examine an in-depth understanding of the various aspects of anti-social behaviour (e.g. experience with a wide range of anti-social behaviour and views about risk factors of anti-social behaviour) through a semi-structured interview (Interviews will take no longer than 10-15mins)**.**

Participants for study 4 will include 5 professionals who work with youth offenders and 5 ex-youth offenders; these ex-young offenders (18-25 years) will be recruited from Wandsworth Councils prevention/Intervention team headed by Cliff Hilderly.

The interview will take place at a manned community centre during opening hours. All interviews will be audio-taped and analysed offline.

An example of question to be asked: What do you think makes young people become involved in anti-social behaviour? Discuss.

Ethical issues raised by the project and how these will be addressed:

(Points that should be considered include: participants and consent; permissions from organisations involved; confidentiality and anonymity; whether any inclusion/exclusion criteria or special/ vulnerable populations are involved (including under 18s); right to withdrawal; deception; potential risks to participants or researchers)

SECTION 3: RESEARCH INVOLVING PARTICIPANTS

- You should download the Participant Consent Form template and amend it as necessary
- You should also attach any other information to be given to participants
- You should consider carefully what information you provide to participants, e.g. scope of study, number of participants, duration of study, risks/benefits of the project. It is recommended that the participant has two copies of the consent form, so they can retain one for information.
- If images or anything else which might allow the identification of participants is to be publicly accessible (e.g. on the web), further written consent must be secured. A separate sec-

tion regarding this should be included on the participant consent form.

Give details of the method of recruitment, and potential benefits or incentives to participants if any (include any financial benefits where proper).

(NB: Please remember that written permission – or in A few cases ethics approval – will have to be sought from any organisations where recruitment is conducted, or posters placed (e.g. if you recruit in GP's surgeries you will require NHS approval)

School head-teachers will provide consent for the research to go ahead in the school. Schools will be recruited through Wandsworth council who already run routine classroom-based programmes on antisocial behaviour. Emails will summarise the key information in the Head teacher consent form. Parents will be recruited by an information and opt-out consent letter. (See section 2 "ethical issues" above and appendix 9 and 10). We aim to recruit two schools, though may recruit others depending on the number of participants these provide.

Will your research involve participants who are aged under 18?

YES X NO

Will you be approaching participants who might be vulnerable (please give details if not addressed elsewhere on this form)?

YES X NO

If you have answered Yes, please refer to the Ethics Guidelines (especially section 3.4.j if your research involves participants who are aged under 18) and highlight the issues raised by working with these participants and how these issues have been addressed.

If you have answered Yes, please refer to the Ethics Guidelines (especially section 4.11 if using participants who are aged under 18) and highlight the issues raised by working with these participants and how these issues have been addressed.

The study involves work with minors under the age of 16, who are considered a vulnerable population according to the BPS Code of Human Research Ethics. Therefore, both parental (opt-out) consent and verbal informed consent from the children will be sought (see above).

Details of DBS check (date, place of issue and disclosure number)

Please note: if you are unsure whether this is required, please check with Helen Joyes (HR Officer, Operations) and advise us accordingly

Fully enhanced up to date DBS check processed by the university of Roehampton.

SECTION 4: HEALTH AND SAFETY

- **You must download and complete the Ethics Risk Assessment Form (and Overseas Background Information Form if applicable) and attach this to your application.**
- You should be able to demonstrate that appropriate mechanisms are in place for the re-search to be carried out safely
- If necessary, the Head of Health & Safety should be consulted before the application is submitted

Please give a brief overview of the main risks involved in the project and what will be done to mitigate against these

Will any of your project take place outside the UK?

YES NO X

Country:

If you have answered yes please refer to Section 4.2 of the Ethics Guidelines, complete the Overseas Background Information form and consult with the Head of Health and Safety if necessary. Applicants should adhere to University Guidelines on Foreign Travel. If you are conducting research out of the UK but in your home country or the country in which you reside you should still complete this form.

PLEASE NOTE: it is your responsibility to contact Shamna Finnigan in Finance Department regarding travel assistance and medical cover

Please provide translations of participant facing documentation, if required (for student applications, these should be checked by your supervisor prior to submission)

Is this a clinical trial or a project which may involve abnormal risk to participants?

YES NO X

Will 'human tissue' samples need to be stored?

YES NOX

If you have answered Yes, please contact the Ethics Officer who will be able to direct you to the appropriate member of staff dealing with this. Please also refer to Sections 3.5 and 4.2 of the Ethics Guidelines

SECTION 5: PUBLICATION OF RESULTS

How will you disseminate your findings? (e.g. publication)

Findings will be submitted for publication in scientific journals and be presented at academic conferences.

The identity of the participants will be kept anonymous. Only overall results will be reported without reference being made to any participant's identity.

All findings are for research purposes only and are not used for diagnosis purposes.

How will you ensure the anonymity of your participants?

(If your participants do not wish to remain anonymous you must obtain their written consent.)

The data will be stored on a password-protected computer and USB that only the applicant (AD) and her supervisory team (Prof. Cecilia Essau & Dr. Catherine Gilvarry) will have access to. In compliance with participant confidentiality and anonymity, questionnaires will not be linked with participant demographics but by number only not disclosing their names, their institutions from where they have recruited, or any other information that can connect to the participants through the results. Published results will comprise quantitative data derived from descriptive and inferential statistical analyses and qualitative data from audio-taped interview.

Opt out Consent forms will be kept separately from questionnaires data to ensure that the participants' anonymity is preserved.

Section 2.7 of *Roehampton University Code of Good Research Practice* states the following: 'research data must normally be retained intact for a period of at least ten years from the date of any publication which is based upon it. Researchers should be aware that specific professional bodies and research councils may require a longer period of data retention.

SECTION 6: STORAGE OF DATA

Describe how and where the following data will be stored and how they will be kept secure:

Raw and processed data

This data will be kept separate and stored as protected computer files in Professor Cecilia Essau's office at the University of Roehampton (duration of at least 10 years)

The researchers comply with the regulations of the current Data Protection Act in force from time to time to ensure that copyright, a third party's intellectual property rights and confidentiality are not breached.

Documents containing personal details of any participants

The data will be stored on a password-protected computer and USB that only the applicant (AD) and her supervisory team (Prof. Cecilia Essau & Dr. Catherine Gilvarry) will have access to. In compliance with participant confidentiality and anonymity, questionnaires will not be linked with participant demographics but by number only not disclosing their names, their institutions from where they have recruited, or any other information that can connect to the participants through the results. Published results will comprise quantitative data derived from descriptive and inferential statistical analyses and qualitative data from audio-taped interview.

Opt out Consent forms will be kept separately from questionnaires data to ensure that the participants' anonymity is preserved.

SECTION 7: EXTERNAL GUIDELINES, APPROVAL & FUNDING

Are there any relevant subject-specific ethics guidelines (e.g. from a professional society)? If so, how will these inform your research process?

This investigation conforms to the ethical statements issued by the British Psychological Society: The British Psychological Society (2004) *Code of Conduct Ethical Principles and Guidelines* paying attention to; *Ethical Principles for Research with Human*

Subjects (www.bps.org.uk).

As well as this there are guidelines from organisations and bodies that have specific expertise with respect to Child and Young persons (see below) and these will be followed and adhered to.

National Children's Bureau (NCB): http://www.ncb.org.uk/media/434791/guidelines_for_research_with_cyp.pdf

British Educational Research Association (BERA): http://www.bera.ac.uk/publications/ethical-guidelines

Medical Research Council:

http://www.mrc.ac.uk/Utilities/Documentrecord/index.htm?d=MRC002430
Has/will the project be sent for approval to the ethics committee of any other organisation, e.g. NHS ethics approval? (Please see Section 4.3, Ethics Guidelines) N/A What is the outcome of this?
Is your project externally funded? (Please note you do not need to send an ethics application or gain ethics approval for a project when applying for funding – this can be done when you receive confirmation that the application for funding has been successful) YES NO X If you have answered yes you must complete a P1 form and submit this to RBDO before you complete your ethics application. Please state the name of the funding company below and provide any other relevant information Has your P1 form been approved by your Head of Department? YES NO

SECTION 8: CHECKLIST	
Please read through the checklist and check the box to confirm: *NB. this checklist is part of the Ethics Application and must be completed*	
Project Details	
Have you completed your personal details? (Section 1)	Yes X
Have you outlined the project and ethical issues? (Section 2)	Yes X
Have you described your project in laymen's terms and avoided using too much technical jargon?	Yes X
Have you focused on the ethical issues and practical steps of carrying out the project rather than methodological arguments which are not relevant to this application?	YesX
Working with Participants	
Have you completed details of how you intend to recruit participants and whether they will receive any reimbursement? (Section 3)	Yes X
If you are working with under 18s or participants who might be vulnerable have you addressed the ethical issues involved in working with these participants? (Section 3)	Yes X NA
Have you amended the Participant Consent Form (Template) for your project?	
Have you attached any other information to your form that may be needed for participants, e.g. Debriefing Letter, Information Sheet?	Yes X
Have you attached any other participant-facing materials to your form, e.g. recruitment posters, questionnaire, interview questions?	Yes X
Have you confirmed that the relevant permissions to recruit/ carry out the project have or will be obtained?	Yes X
If your project involves clinical trial/s, abnormal level of risk or working with animals have you read University Guidelines carefully?	Yes NA X
Health and Safety	
If your project is taking place outside the UK have you noted on the form where the project will take place, read section 4.2 of the guidelines and completed an Overseas Background Information Form?	Yes NA X
If your project is taking place outside the UK, have you provided translations of participant facing documentation if required?	Yes NA X
Have you completed the Risk Assessment form describing the risks associated with your project and how you will implement control measures to address these?	Yes X

If your project involves interviews in a participant's home or lone-working have you considered the risks and control measures in the risk assessment? (E.g. advising a colleague/supervisor of the timings of visits, ringing before/ after interview and developing a contingency plan if contact is not made)?	Yes X
If your project involves clinical trial/s, abnormal level of risk, working overseas or working with animals, have you consulted with the Head of Health & Safety in drawing up your risk assessment?	Yes NA X
If your project involves clinical trial/s, abnormal level of risk, working overseas or working with animals have you marked this clearly on the form (Section 4) and read sections 3.5 and 4.2 of the guidelines?	Yes NA X
If observing animals, have you mentioned the possibility of attack (bites/ scratches) and precautions taken in respect of this?	Yes NA X
If working off site, have you confirmed that local guidelines and regulations will be complied with?	Yes X NA
Do you consider that this project is exceptional such that it requires confirmation from Finance that insurance cover is in place?	Yes No X

Publication of Results	
Have you described on the form how you will publish your findings? (Section 5)	Yes X
Have you described how you will ensure the anonymity of your participants or asked your participants for explicit consent in your consent form to identify them in your research?	Yes X
Storage of Data	
Are you aware that the University's Code of Good Research Practice requires you to retain data intact for a period of at least ten years from the date of any publication? (*Specific professional bodies and research councils may require a longer period of data retention.)*	Yes X
If a transcription service is to be used, have you included a copy of the confidentiality agreement with your application?	Yes X NA
Have you described how and where your data will be stored at the University and how this will be kept secure? (Section 6)	Yes X
External Guidelines & Funding	
Have you noted any relevant subject-specific ethics guidelines (e.g. from a professional society) and considered how these will inform your research? (Section 7)	YesX
Have you considered whether you must apply for ethical approval through another (e.g. NHS)? (Section 7)	Yes NA X

Have you provided full details of any external funding and the approval stage of your P1 form (staff only)? (Section 7)	Yes NA X
Applicant's Confirmation	
Have you added an electronic signature or typed your name and date in the applicant's signature box?	Yes X
If you are a student has your supervisor checked your application form before submission?	Yes X NA
If you are a student has your Director of Studies checked your application form and added an electronic signature or typed their name and date on the form?	Yes X NA
Will you email the Ethics Officer and make sure you attach your Ethics Application Form and all documents, e.g. Participant Consent Form, Risk Assessment Form and any additional information for participants or for other purposes?	Yes X
Presentation	
Have you completed the form using size 12 black font, using one font (e.g. Arial) throughout the form?	Yes X
Have you proof-read your application form and attached documents?	YesX
Ethics Approval Process	
Please note the following:	
• the ethics approval process can take several weeks	Yes, X
• that you must not begin your project or enter into any agreement or contract until you have received email confirmation from the Ethics Officer that you can begin the project	Yes X
• that the Ethics Application Form will be approved by your Department and the Ethics Committee may be asked to advise on problematic cases	
• that you may be asked by the Ethics Officer to revise your form and you will be asked to make the revisions within two weeks from the date of any email sent to you	Yes X Yes X

University of Roehampton London

SECTION 9: APPLICANT'S CONFIRMATION	
Confirm that the information supplied on this form is correct and confirm that the above checklist has been fully completed.	
Applicant's signature:	*Sharon Allan*
Date:	30/07/14
FOR STUDENTS ONLY: DIRECTOR OF STUDIES SIGNATURE (Where there is not a Director of Studies this should be completed by the Academic Supervisor)	
The Director of Studies is required to: • *scrutinise the Ethics Application and all participant-facing documentation* • *suggest and check any changes which need making before the form is submitted* *Please tick the box to confirm that you have approved the application and participant-facing documentation X*	
Signature:	*Cecilia Essau*
Print name:	Cecilia Essau
Date:	30/07/14

The Application Form does **not** need to be printed out. The form and attachments should be sent by email to the Ethics Officer, Jan Harrison:

- Ethics Application Form
- Participant Consent Form
- Risk Assessment Form
- Any other information
  (E.g. information sheet, advertising material, questionnaires, debriefing letter)

Jan.Harrison@roehampton.ac.uk, 0208 392 5785

PLEASE NOTE: YOU MUST NOT BEGIN YOUR PROJECT UNTIL YOUR ETHICS APPLICATION HAS BEEN APPROVED

University of Roehampton London

Appendix 2: Letter and consent for Institutions/parents.

Title of Research Project: Adolescents perception of risky behaviour

Dear Head of the Institution/Head teacher/parent,

Researcher based in the Department of Psychology, Roehampton University in London. I have a fully enhanced up to date DBS certificate and have extensive research experience in school settings. Conducting a large project, to look at adolescents/young adults' perception of risky behaviours, under the supervision of Professor Cecilia Essau. The study will be conducted in a usual classroom setting.

The participants will complete a set of questionnaires in a group in a designated classroom. In addition, the adolescents will be invited to participate in an experiment on a laptop assessing impulsivity. Questionnaires may be repeated about a year later to access stability over time.

I will administer both the questionnaires (30-45 mins. to complete) and experiment (20 mins. to complete) to the participants myself to ensure confidential and independent responding, in a designated classroom in your institution/school. A total time for participation would be no more than 1hour 5 mins. In addition, if required to participate Interviews will take 15-20 mins. to complete.

Only participants whose parents have not completed opt out forms will be allowed to take part in the project.

All responses will be anonymous and confidential. No identifying details will be recorded. The adolescent's/young adults name and other identifying information will be kept securely and separately from the rest of the questionnaires. Only the researchers will have access to the data.

If you are happy to support this research by allowing us to recruit from your institution/school, I would be most grateful if you could confirm this by signing the provided consent slip below.

Please note: if you have a concern about any aspect of your participation or any other queries please raise this with the investigator (or if the researcher is a student you can also contact the Director of Studies). However, if you would like to contact an independent party please contact the Head of Department.

Investigator Contact Details:

Sharon Allan,
Department of Psychology
Whitelands College,
Roehampton University,
Holybourne Avenue,
London, SW15 4JD.
Email: sharon.allan@roehampton.ac.uk
Tel: 0208 392 3000

(Page 2 of 2) **School/ Institution Consent Form**

Consent Statement: I agree for the adolescents/young adult in this school/institution to take part in the study (Project's title: Risky Behaviour among Adolescents in London: From Frequency to Prevention).

Confirm that I have seen all materials to be given to the participants and approve them.

Confirm that I have seen and am happy with the information to be given to participants (including parents).

Confirm that I am happy for parents to provide opt-out consent for their children to take part in the study.

Confirm I have been advised and I am happy with the process for selecting some children for later interview.

I am aware that the school/institution are free to withdraw at any point without giving a reason, although if we do so we understand that the data might still be used in a collated form. I understand that any information provided will be treated in confidence by the investigator and that identity's will be protected in the publication of any findings, and that data will be collected and processed in accordance with the Data Protection Act 1998 and with the University's Data Protection Policy.

Head Teacher: _____

Signature: _____

Date: _____

Please note: if you have a concern about any aspect of the participation or any other queries please raise this with the investigator. However, if you would like to contact an independent party please contact the Head of Department (or if the researcher is a student you can also contact the Director of Studies).

Director of Studies
Professor Cecilia Essau
Department of Psychology
Whitelands College
Roehampton University
Holybourne Avenue
London SW15 4JD
Email: C.Essau@roehampton.ac.uk

Head of Psychology
Dr Diane Bray
Department of Psychology
Whitelands College
Roehampton University
Holybourne Avenue
SW15 4JD
Email: d.bray@roehampton.ac.uk

Tel: (020) 8392 3647

Appendix 3: The Social and Health Assessment (SAHA; Ruchkin, Schwab-Stone, & Vermeiren, 2004) *(Page 1 of 3) We would like to begin by asking you about you and your friends.*

1.	***How many of your friends…***	***None of Them***	***A Few of Them***	***Some of Them***	***Most or All of them***
A	Smoke cigarettes on a regular basis?	*1*	*2*	*3*	*4*
B	Have dropped out of school before finishing high school?	*1*	*2*	*3*	*4*
C	Go out in the evening without their parent's' permission?	*1*	*2*	*3*	*4*
D	Drink alcohol regularly?	*1*	*2*	*3*	*4*
E	Use marijuana, amphetamine, or any other drug?	*1*	*2*	*3*	*4*
F	Have had sexual intercourse? (Think of friends the same sex as you.)	*1*	*2*	*3*	*4*
G	Have been at the juvenile court because of their behaviour?	*1*	*2*	*3*	*4*
H	Have skipped school a lot without permission?	*1*	*2*	*3*	*4*
I	Have been arrested by the police?	*1*	*2*	*3*	*4*

How do you feel about your neighbourhood?

2 ***Please circle if the following statements apply:***
Definitely Not True, Mostly Not True, Mostly True, or Definitely true for you.

		Definitely Not True	***Mostly Not True***	***Mostly True***	***Definitely True***
A	It is safe to walk alone in my neighbourhood after dark.	*1*	*2*	*3*	*4*
B	In my neighbourhood there are good places To spend time with my friends.	*1*	*2*	*3*	*4*

C	There is litter, broken glass, or garbage on the streets, On sidewalks, or in yards in my neighbourhood.	*1*	*2*	*3*	*4*
D	I feel safe in my neighbourhood.	*1*	*2*	*3*	*4*
E	Neighbourhood looks nice.	*1*	*2*	*3*	*4*
F	Like spending time in my neighbourhood.	*1*	*2*	*3*	*4*
G	Some people sell or use drugs in my neighbourhood.	*1*	*2*	*3*	*4*
H	People on the streets in my neighbourhood are friendly.	*1*	*2*	*3*	*4*
I	People in my neighbourhood are willing to help each other.	*1*	*2*	*3*	*4*
J	In my neighbourhood there are problems because of racial differences.	*1*	*2*	*3*	*4*

 The next questions are about things that may happen to people in some neighbourhoods.

3	***Circle the <u>number of times</u> you have <u>seen</u> the following things happen in the <u>past year</u>.*** ***Do <u>NOT</u> include things you have <u>only</u> seen or heard about on TV, radio, the news, or in the movies.***

Saw…		***<u>None</u>***	***<u>1-2 Times</u>***	***<u>3-5 Times</u>***	***<u>6-9 Times</u>***	***<u>10+ Times</u>***
A	. Someone else was being chased by gangs or individuals.	*0*	*1-2*	*3-5*	*6-9*	*10+*
B	. Someone else get threatened with serious physical harm.	*0*	*1-2*	*3-5*	*6-9*	*10+*
C	. Someone else getting beaten up or mugged.	*0*	*1-2*	*3-5*	*6-9*	*10+*
D	. someone else being attacked or stabbed with a knife.	*0*	*1-2*	*3-5*	*6-9*	*10+*
E	. A seriously wounded person after an incident of violence.	*0*	*1-2*	*3-5*	*6-9*	*10+*
F	. Someone else gets shot or shot at with a gun.	*0*	*1-2*	*3-5*	*6-9*	*10+*
G	. Someone else get threatened or harmed because of their race or ethnicity.	*0*	*1-2*	*3-5*	*6-9*	*10+*

4.	***Circle the <u>number of times</u> the following things <u>have happened to you</u> in the <u>past year</u>.*** ***Do <u>NOT</u> include things you have <u>only</u> seen or heard about on TV, radio, the news, or in the movies.***

I have <u>been</u>…		***<u>None</u>***	***<u>1-2 Times</u>***	***<u>3-5 Times</u>***	***<u>6-9 Times</u>***	***<u>10+ Times</u>***
A	Chased by gangs or individuals.	*0*	*1-2*	*3-5*	*6-9*	*10+*
B	Threatened with serious physical harm by someone.	*0*	*1-2*	*3-5*	*6-9*	*10+*
C	Beaten up or mugged.	*0*	*1-2*	*3-5*	*6-9*	*10+*
D	Attacked or stabbed with a knife.	*0*	*1-2*	*3-5*	*6-9*	*10+*
E	Seriously wounded in an incident of violence.	*0*	*1-2*	*3-5*	*6-9*	*10+*
F	Shot or shot at with a gun.	*0*	*1-2*	*3-5*	*6-9*	*10+*
G	Threatened or harmed by someone due to my race or ethnicity.	*0*	*1-2*	*3-5*	*6-9*	*10+*

5.	I feel safe in my home.	*Definitely Not True*	*Mostly Not True*	*Mostly True*	*Definitely True*

The next questions ask what <u>you</u> think about doing certain things.

University of Roehampton London

6.	How wrong is it I..?	Not Wrong	A Little Bit Wrong	Wrong	Very Wrong
A	Start a fistfight or shoving match?	1	2	3	4
B	Shoplift from a store?	1	2	3	4
C	Damage or mark up public or private property on purpose?	1	2	3	4
D	Lie to a teacher to cover up something you did?	1	2	3	4
E	Stay out all night without permission?	1	2	3	4
F	lie to your parents or guardians About where you have been or whom you were with?	1	2	3	4
	Skip school without permission?	1	2	3	4
H	Hurt someone badly in a fight?	1	2	3	4
I	Be a look-out for a drug dealer?	1	2	3	4
J	Sell drugs if you needed the money?	1	2	3	4

7. How much do you think people your age risk harming themselves if they...	No Risk	Slight Risk	Moderate or Medium Risk	Great Risk
A. smokes a few cigarettes per day?	1	2	3	4
B. gets poor grades?	1	2	3	4
C. tries cocaine once or twice?	1	2	3	4
D. carries a gun?	1	2	3	4
E. has five or more drinks of an alcoholic beverage (beer, wine, or liquor) in a row?	1	2	3	4
F. drop out of school?	1	2	3	4
G. inhale or sniff things to get high (Like paint, glue, whip-its, or other)?	1	2	3	4
H. have sex without using a condom?	1	2	3	4

The next questions ask about experiences some people have had.

8.	During the past year, how many times have you:	0 Times	1 Time	2 Times	3-4 Times	5 or More Times
A.	Started a fistfight or shoving match?	0	1	2	3-4	5+
B.	Shoplifted from a store?	0	1	2	3-4	5+
C.	Damaged or marked up public /private property?	0	1	2	3-4	5+
D.	Lied to a teacher to cover up something you did?	0	1	2	3-4	5+
E.	Stayed out all night without permission?	0	1	2	3-4	5+
F.	Lied to your parents or guardians about where you have been or who you were with?	0	1	2	3-4	5+
G.	Skipped school without permission?	0	1	2	3-4	5+
	hurt someone badly in a physical So that they had to be treated by a doctor/nurse?	0	1	2	3-4	5+
H.	Carried a gun?	0	1	2	3-4	5+

		I. Been involved in gang fights?	*0*	*1*	*2*	*3-4*	*5+*
		J. Been arrested by the police?	*0*	*1*	*2*	*3-4*	*5+*
		K. Seen someone get shot or stabbed?	*0*	*1*	*2*	*3-4*	*5+*
		L. Carried a blade, knife, or gun in school?	*0*	*1*	*2*	*3-4*	*5+*
		M. Been suspended from school?	*0*	*1*	*2*	*3-4*	*5+*
		N. Been at school after drinking alcohol?	*0*	*1*	*2*	*3-4*	*5+*
		O. Been high at school from smoking marijuana?	*0*	*1*	*2*	*3-4*	*5+*
		P. Stolen a motorcycle or car?	*0*	*1*	*2*	*3-4*	*5+*
		Q. Pick-pocketed somebody?	*0*	*1*	*2*	*3-4*	*5+*
		R. Sold drugs to earn money?	*0*	*1*	*2*	*3-4*	*5+*
		S. Been in juvenile court because of your behaviour?	*0*	*1*	*2*	*3-4*	*5+*

9.		A. Are there any gangs in your neighbourhood?	*Yes*	*No*	*I do not know*
		B. Do any of students at your school belong to a gang?	*Yes*	*No*	*I do not know*
		C. Have you ever belonged to a gang?	*Yes*	*No*	*I do not know*

Appendix 4: Drug Use

We are interested to know about your alcohol and drug use.

Please answer the following questions about the types of drugs that you have used and circle Yes or No to answer, also if relevant indicate the type of alcohol; drug; tobacco or other used.

	Have you ever tried any item listed here?	Has this use has become a problem for you?
Alcohol	*Yes* *No*	*Yes* *No*
Drug	*Yes* *No*	*Yes* *No*
Tobacco	*Yes* *No*	*Yes* *No*
Other	*Yes* *No*	*Yes* *No*

Appendix 5: Youth Self-Report
(YSR; Achenbach, 1991)

Below is a list of items that describe adolescents. For each item that describes you <u>now or within the last six months,</u> please circle 2 if the item is very true or often true of you. Circle 1 if the item is somewhat or sometimes true of you. If the item is not true of you circle 0.

0 = Not true. 1= somewhat or sometimes true. 2 = very true or often true.

	(Page 1 of 6)	***Not true***	***Somewhat or sometimes true***	***Very true or often true***
1	I act too young for my age	*0*	*1*	*2*
2	I drink alcohol without my parent's approval	*0*	*1*	*2*
3	I argue a lot.	*0*	*1*	*2*
4	I fail to finish things I start.	*0*	*1*	*2*
5	There is very little that I enjoy.	*0*	*1*	*2*
6	I like animals.	*0*	*1*	*2*
7	I brag.	*0*	*1*	*2*
8	I have trouble concentrating or paying attention.	*0*	*1*	*2*
9	I can't get my mind off certain thoughts:	*0*	*1*	*2*
10	I have trouble sitting still.	*0*	*1*	*2*
11	I am too independent of adults.	*0*	*1*	*2*
12	I feel lonely.	*0*	*1*	*2*
13	I feel confused or like I'm in a fog.	*0*	*1*	*2*
14	I cry a lot	*0*	*1*	*2*
15	I am honest.	*0*	*1*	*2*
16	I daydream a lot.	*0*	*1*	*2*
17	I am mean to others.	*0*	*1*	*2*
18	I deliberately try to hurt or kill myself.	*0*	*1*	*2*
19	I try to get a lot of attention.	*0*	*1*	*2*
20	I destroy my own things.	*0*	*1*	*2*
21	I destroy things belonging to others.	*0*	*1*	*2*
22	I disobey my parents.	*0*	*1*	*2*
23	I disobey at school.	*0*	*1*	*2*
24	I don't eat as well as I should.	*0*	*1*	*2*
25	I don't get along with other kids.	*0*	*1*	*2*
26	I don't feel guilty after doing something I shouldn't.	*0*	*1*	*2*
27	I am jealous of others.	*0*	*1*	*2*
28	I break rules at home: school or elsewhere.	*0*	*1*	*2*
29	I am afraid of certain; animals; situations; places, (not school).	*0*	*1*	*2*
30	I am afraid of going to school.	*0*	*1*	*2*
31	I am afraid I might think or do something bad.	*0*	*1*	*2*
32	I feel that I must be perfect.	*0*	*1*	*2*
33	I feel that /no one loves me.	*0*	*1*	*2*
34	I feel that others are out to get me.	*0*	*1*	*2*
35	I feel worthless or inferior.	*0*	*1*	*2*
36	I accidently get hurt a lot.	*0*	*1*	*2*
37	I get in many fights.	*0*	*1*	*2*
38	I get teased a lot.	*0*	*1*	*2*
39	I hang around with kids who get in trouble.	*0*	*1*	*2*

40	I hear sounds/voices that other people think aren't there.	0	1	2
41	I act without stopping to think.	*0*	*1*	*2*
42	I would rather be alone than with others.	*0*	*1*	*2*
43	I lie or cheat.	*0*	*1*	*2*
44	I bite my fingernails.	*0*	*1*	*2*
45	I am nervous or tense.	*0*	*1*	*2*
46	Parts of my body twitch or make nervous movements.	*0*	*1*	*2*
47	I have nightmares.	*0*	*1*	*2*
48	I am not liked by other kids.	*0*	*1*	*2*
49	I can do certain things better than most kids.	*0*	*1*	*2*
50	I am too fearful or anxious.	*0*	*1*	*2*
51	I feel dizzy or light headed.	*0*	*1*	*2*
52	I feel too guilty.	*0*	*1*	*2*
53	I eat too much	*0*	*1*	*2*
54	I feel overtired without good reason.	*0*	*1*	*2*
55	I am overweight.	*0*	*1*	*2*
56	Physical problems without known medical cause.	*0*	*1*	*2*
	a. Aches or pains (not stomach or headaches)	*0*	*1*	*2*
	b. Headaches.	*0*	*1*	*2*
	c. Nausea feel sick	*0*	*1*	*2*
	d. Problems with eyes (not if corrected by glasses).	*0*	*1*	*2*
	e. Rashes or other skin problems.	*0*	*1*	*2*
	f. Stomach aches.	*0*	*1*	*2*
	g. Vomiting, throwing up.	*0*	*1*	*2*
	h. Other (describe)…….	*0*	*1*	*2*
57	I physically attack other people	*0*	*1*	*2*
58	I pick my skin or other parts of my body	*0*	*1*	*2*
59	I can be friendly.	*0*	*1*	*2*
60	I like to try new things.	*0*	*1*	*2*
61	My school work is poor.	*0*	*1*	*2*
62	I am poorly coordinated or clumsy.	*0*	*1*	*2*
63	I would rather be with older kids than kids my own age.	*0*	*1*	*2*
64	I would rather be with younger kids than kids my own age.	*0*	*1*	*2*
65	I refuse to talk.	*0*	*1*	*2*
66	I repeat certain acts over and over	*0*	*1*	*2*
67	I run away from home.	*0*	*1*	*2*
68	I scream a lot.	*0*	*1*	*2*
69	I see things that other people think aren't there.	*0*	*1*	*2*
70	I am secretive or keep things to myself.	*0*	*1*	*2*
71	I am self-conscious or easily embarrassed.	*0*	*1*	*2*
72	I set fires.	*0*	*1*	*2*
73	I can work well with my hands.	*0*	*1*	*2*
74	I show off or clown around.	*0*	*1*	*2*
75	I am too shy or timid.	*0*	*1*	*2*
76	I sleep less than most kids.	*0*	*1*	*2*
77	I sleep more than most kids during day/and /or night.	*0*	*1*	*2*
78	I am inattentive or easily distracted.	*0*	*1*	*2*
79	I have a speech problem	*0*	*1*	*2*
80	I stand up for my rights.	*0*	*1*	*2*
81	I steal at home.	*0*	*1*	*2*

82	I steal from places other than home.	*0*	*1*	*2*
	(Page 5 of 6)	***Not true***	***Somewhat or sometimes true***	***Very true or often true***
83	I store up too many things I don't need	*0*	*1*	*2*
84	I do things other people think are strange	*0*	*1*	*2*
85	I have thoughts that other people think are strange.	*0*	*1*	*2*
86	I am stubborn	*0*	*1*	*2*
87	My moods or feeling change suddenly.	*0*	*1*	*2*
88	I enjoy being with people.	*0*	*1*	*2*
89	I am suspicious.	*0*	*1*	*2*
90	I swear or use dirty language.	*0*	*1*	*2*
91	I think about killing myself.	*0*	*1*	*2*
92	I like to make others laugh.	*0*	*1*	*2*
93	I talk too much.	*0*	*1*	*2*
94	I tease others a lot.	*0*	*1*	*2*
95	I have a hot temper	*0*	*1*	*2*
96	I think about sex too much.	*0*	*1*	*2*
97	I threaten to hurt people.	*0*	*1*	*2*
98	I smoke chew or sniff tobacco.	*0*	*1*	*2*
99	I like to help others	*0*	*1*	*2*
100	I have trouble sleeping	*0*	*1*	*2*
101	I cut classes or skip school.	*0*	*1*	*2*
102	I don't have much energy.	*0*	*1*	*2*
103	I am unhappy, sad or depressed.	*0*	*1*	*2*
104	I am louder than other kids.	*0*	*1*	*2*
105	I use drugs for nonmedical purposes (not alcohol/tobacco)	*0*	*1*	*2*
106	I like to be fair to others.	*0*	*1*	*2*
107	I enjoy a good joke.	*0*	*1*	*2*
108	I like to take life easy.	*0*	*1*	*2*
109	I try to help other people when I can.	*0*	*1*	*2*
110	I wish I was the opposite sex to what I am.	*0*	*1*	*2*
111	I keep from getting involved with others	*0*	*1*	*2*
112	I worry a lot.	*0*	*1*	*2*

Appendix 6: Attribution Bias Regarding Relational Provocation
(Crick et al., 2002)

<u>Adolescent – Please answer how you honestly think now.</u>

In each situation, please decide if the intent of the person was either un-harmful (benign) OR harmful (hostile). You must decide one or the other for each question.

11. *A. Pretend that you are playing volleyball with a young person named Brian/Jessica. You throw the ball to Brian /Jessica and he/she catches it as it is their serve. You turn around, and the next thing you realise is that Brian /Jessica has thrown the ball and hit you in the middle of your back. The ball hits you hard, and it hurts a lot.* ***Why do you think Brian /Jessica hit you in the back?***

_____
_____ ____

B. Pretend that you see some young people playing basketball on the playground. You would really like to join them, so you go over and ask one of them, named Terry/Eloise, if you can join. Alan/Leah says no. ***Why do you think Terry/Eloise said no?***

_____
_____

C. Pretend that you are walking to school 'and you're wearing brand new trainers. You really like your new trainers, and this is the first day you have worn them. Suddenly, you are bumped from behind by a young person named Simon/Holly. You stumble into a muddy puddle and your new trainers get muddy. ***Why do you think Simon/Holly bumped into you?***
_____
_____ ____

D. Pretend that you are the new person in school, and you would really like to make friends. At lunchtime, you see some people you would like to sit with, and you go over to their table.

You ask if you can sit with them and someone named John/Emily says no.

Why do you think John/Emily said no?
_____
_____

E. Pretend that you go to the first meeting of a club you want to join. You would like to make friends with the other young people in the club. You walk up to some of the other young people "and" say "Hi!", but 'hey don't say anything back. ***Why do you think the other young people did not answer you?***
_____
_____

F. Pretend that you are walking down the hallway in school. You are carrying your books in your arm and talking to a friend. Suddenly a young person named Mark/Sally bumps you from behind. You stumble and fall, and your books go flying across the floor. The other young people in the hall start laughing. ***Why do you think Mark/Sally bumped into you?***

_____

(Page 2 of 2)

G. Pretend that it is your first day at school. 'You don't know a lot of the other young people and you would like to make friends with them. You see some kids playing a ball game, so you Walk up "nd say "Hello! But no one answers you.

Why do you think the other young people did not answer you?

_____
_____

H. Pretend that you and your class went on a drama trip to the theatre. You stop to buy a coke.

Suddenly, a young person named Paul/Julie bumps your arm and spills your coke all over your shirt.

The coke is cold, and your shirt is all wet.

Why do you think Paul/Julie bumped into you?

_____

_____

Appendix 7: The Youth Inventory of Callous-Unemotional Traits.
(ICU Youth Version Frick, 2004)

Instructions: Please read each statement and decide how well it describes you.

Mark your answer by circling the appropriate number (0-3) for each statement. Do not leave any statement unrated.

	Not at all true	***Somewhat true***	***Very true***	***Definitely True***
1. I express my feelings openly.	*0*	*1*	*2*	*3*
2. What I think is "right" and "wrong" is different from what other people think.	*0*	*1*	*2*	*3*
3. I care about how well I do at school or work.	*0*	*1*	*2*	*3*
4. I do not care who I hurt to get what I want.	*0*	*1*	*2*	*3*
5. I feel bad or guilty when I do something wrong.	*0*	*1*	*2*	*3*
6. I do not show my emotions to others.	*0*	*1*	*2*	*3*
7. I do not care about being on time.	*0*	*1*	*2*	*3*
8. I am concerned about the feelings of others.	*0*	*1*	*2*	*3*
9. I do not care if I get into trouble.	*0*	*1*	*2*	*3*
10. I do not let my feelings control me.	*0*	*1*	*2*	*3*
11. I do not care about doing things well.	*0*	*1*	*2*	*3*
12. I seem very cold and uncaring to others.	*0*	*1*	*2*	*3*
13. I easily admit to being wrong.	*0*	*1*	*2*	*3*
14. It is easy for others to tell how I am feeling.	*0*	*1*	*2*	*3*
15. I always try my best.	*0*	*1*	*2*	*3*
16. I apologize ("say I am sorry") to persons I hurt.	*0*	*1*	*2*	*3*
17. I try not to hurt others' feelings.	*0*	*1*	*2*	*3*
18. I do not feel remorseful when I do something wrong.	*0*	*1*	*2*	*3*
19. I am very expressive and emotional.	*0*	*1*	*2*	*3*
20. I do not like to put the time into doing things well.	*0*	*1*	*2*	*3*
21. The feelings of others are unimportant to me.	*0*	*1*	*2*	*3*
22. I hide my feelings from others.	*0*	*1*	*2*	*3*
23. I work hard on everything I do.	*0*	*1*	*2*	*3*
24. I do things to make others feel good.	*0*	*1*	*2*	*3*

Appendix 8: The Rosenberg Self-Esteem Scale
(RSES; Rosenberg, 1965).

Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, circle SA. If you agree with the statement, circle A. If you disagree, circle D. If you strongly disagree, circle SD.Your answers are: Strongly Agree = SA, agree = A, Neutral = N, disagree = D, Strongly Disagree = SD

		Strongly Agree	***Agree***	***Neutral***	***Disagree***	***Strongly Disagree***
1	On the whole, I am satisfied with myself.	*SA*	*A*	*N*	*D*	*SD*
2	At times, I think I am no good at all.	*SA*	*A*	*N*	*D*	*SD*
3	I feel that I have a number of good qualities.	*SA*	*A*	*N*	*D*	*SD*
4	I am able to do things as well as most other people.	*SA*	*A*	*N*	*D*	*SD*
5	I feel I do not have much to be proud of.	*SA*	*A*	*N*	*D*	*SD*
6	I certainly feel useless at times.	*SA*	*A*	*N*	*D*	*SD*
7	I feel that I'm a person of worth, at least on an equal plane with others.	*SA*	*A*	*N*	*D*	*SD*
8	I wish I could have more respect for myself.	*SA*	*A*	*N*	*D*	*SD*
9	All in all, I am inclined to feel that I am a failure.	*SA*	*A*	*N*	*D*	*SD*
10	I take a positive attitude toward myself.	*SA*	*A*	*N*	*D*	*SD*

Appendix 9: The Toronto Empathy Questionnaire

(TEQ; Spreng et al, 2011) Below is a list of statements. Please read each statement *carefully* and rate how frequently you feel or act in the manner described. Circle your answer. There are no right or wrong answers or trick questions. Please answer each question as honestly as you can.

	Never	**Rarely**	**Sometimes**	**Often**	**Always**
When someone else is feeling excited, I tend to get excited too					
Other people's misfortunes do not disturb me a great deal					
It upsets me to see someone being treated disrespectfully					
I remain unaffected when someone close to me is happy					
I enjoy making other people feel better					
I have tender, concerned feelings for people less fortunate than me					
When a friend starts to talk about his\her problems, I try to steer the conversation towards something else					
I can tell when others are sad even when they do not say anything					
I find that I am "in tune" with other people's moods					
I do not feel sympathy for people who cause their own serious illnesses					
I become irritated when someone cries					
I am not really interested in how other people feel					
I get a strong urge to help when I see someone who is upset					
When I see someone being treated unfairly, I do not feel very much pity for them					
I find it silly for people to cry out of happiness					
When I see someone being taken advantage of, I feel kind of protective towards him\her					

Appendix 10: Impulsive-Premeditated Aggression Scale
(IPAS; Stanford et al., 2008)

When people become frustrated, angry or enraged they express that anger in a variety of ways. Considering your aggressive acts over the last 6 months please answer the following questions. An aggressive act is defined as striking and/or verbally insulting another person or breaking/throwing objects because you were angry or frustrated.

Your possible answers are:

Strongly Agree = SA, Agree = A, Neutral = N, Disagree = D, Strongly Disagree = SD

	(Page 1 of 2)	***Strongly Agree***	***Agree***	***Neutral***	***Disagree***	***Strongly Disagree***
1	I planned when and where my anger was expressed.	*SA*	*A*	*N*	*D*	*SD*
2	I felt my outbursts were justified.	*SA*	*A*	*N*	*D*	*SD*
3	When angry I reacted without thinking	*SA*	*A*	*N*	*D*	*SD*
4	I typically felt guilty after the aggressive acts.	*SA*	*A*	*N*	*D*	*SD*
5	I was in control during the aggressive acts	*SA*	*A*	*N*	*D*	*SD*
6	I feel my actions were necessary to get what I wanted	*SA*	*A*	*N*	*D*	*SD*
7	I usually can't recall the details of the incidents well.	*SA*	*A*	*N*	*D*	*SD*
8	I understood the consequences of the acts before I acted.	*SA*	*A*	*N*	*D*	*SD*
9	I feel I lost control of my temper during the acts.	*SA*	*A*	*N*	*D*	*SD*
10	Sometimes I purposely delayed the acts until a later time.	*SA*	*A*	*N*	*D*	*SD*

11	I felt pressure from others to commit the acts.	*SA*	*A*	*N*	*D*	*SD*
12	I wanted some of the incidents to occur.	*SA*	*A*	*N*	*D*	*SD*
	(Page 2 of 2)	***Strongly Agree***	***Agree***	***Neutral***	***Disagree***	***Strongly Disagree***
13	I feel some of the incidents went too far.	*SA*	*A*	*N*	*D*	*SD*
14	I think the other person deserved what happened to them during some of the incidents	*SA*	*A*	*N*	*D*	*SD*
15	I became agitated or emotionally upset prior to the acts.	*SA*	*A*	*N*	*D*	*SD*
16	The acts led to power over others or improved social status for me	*SA*	*A*	*N*	*D*	*SD*
17	I was under the influence of alcohol or other drugs during the acts.	*SA*	*A*	*N*	*D*	*SD*
18	I knew most of the persons involved in the incidents.	*SA*	*A*	*N*	*D*	*SD*
19	I was concerned for my personal safety during the acts.	*SA*	*A*	*N*	*D*	*SD*
20	Some of the acts were attempts at revenge.	*SA*	*A*	*N*	*D*	*SD*
21	I feel I acted out aggressively more than the average person over the last six months	*SA*	*A*	*N*	*D*	*SD*
22	I was confused during the acts.	*SA*	*A*	*N*	*D*	*SD*
23	Prior to the incidents I knew an altercation was going to occur	*SA*	*A*	*N*	*D*	*SD*

24	My behaviour was too extreme for the level of provocation.	*SA*	*A*	*N*	*D*	*SD*
25	My aggressive outbursts were usually directed at a specific person.	*SA*	*A*	*N*	*D*	*SD*
26	I consider the acts to have been impulsive.	*SA*	*A*	*N*	*D*	*SD*
27	I was in a bad mood the day of the incident.	*SA*	*A*	*N*	*D*	*SD*
28	The acts were a “release” and I felt better afterwards.	*SA*	*A*	*N*	*D*	*SD*
29	I am glad some of the incidents occurred.	*SA*	*A*	*N*	*D*	*SD*
30	Anything could have set me off prior to the incidents.	*SA*	*A*	*N*	*D*	*SD*

Appendix 11: Inventory of Peer Attachment

(IPPA) *(Page 1 of 2)*

Each of the following statements asks about your feelings about relationship with your close friends. Answer the questions for the one you feel has most influenced you.

	(1) Never True	*(2) Not Very often true*	*(3) Sometime True*	*(4) Often True*	*(5) Almost Always True*
1.) My friends can tell when I'm upset about something.	*1*	*2*	*3*	*4*	*5*
2.) When we discuss things, my friends care about my point of view.	*1*	*2*	*3*	*4*	*5*
3.) I wish I had different friends.	*1*	*2*	*3*	*4*	*5*
4.) My friends understand me.	*1*	*2*	*3*	*4*	*5*
5.) My friends help me to talk about my difficulties.	*1*	*2*	*3*	*4*	*5*
6.) My friends accept me as I am.	*1*	*2*	*3*	*4*	*5*
7.) I feel the need to be in touch with my friends more often.	*1*	*2*	*3*	*4*	*5*
8.) My friends don't understand what I'm going through these days.	*1*	*2*	*3*	*4*	*5*
9.) I feel alone or apart when I'm with my friends.	*1*	*2*	*3*	*4*	*5*
10.) My friends listen to what I have to say.	*1*	*2*	*3*	*4*	*5*
11.) I feel my friends are good friends.	*1*	*2*	*3*	*4*	*5*
12.) My friends are fairly easy to talk to.	*1*	*2*	*3*	*4*	*5*
13.) When I am angry about something,	*1*	*2*	*3*	*4*	*5*
14) When I am angry, my friends try to be understanding.	*1*	*2*	*3*	*4*	*5*
15.) My friends help me to understand myself better.	*1*	*2*	*3*	*4*	*5*
16.) My friends care about how I am.	*1*	*2*	*3*	*4*	*5*
17.) I feel angry with my friends.	*1*	*2*	*3*	*4*	*5*
18.) I can count on my friends	*1*	*2*	*3*	*4*	*5*
19.) I can count on my friends when I need to share something.	*1*	*2*	*3*	*4*	*5*
20.) I trust my friends.	*1*	*2*	*3*	*4*	*5*
21.) My friends respect my feelings.	*1*	*2*	*3*	*4*	*5*
22.) I get upset a lot more than my friends know about.	*1*	*2*	*3*	*4*	*5*
23.) It seems as if my friends are irritated with me for no reason.	*1*	*2*	*3*	*4*	*5*
24.) I can tell my friends about my problems and troubles.	*1*	*2*	*3*	*4*	*5*
25) If my friends know something is bothering me, they ask me.	*1*	*2*	*3*	*4*	*5*

Appendix 12: The Self-control assessment
the BSC Scale (Tangney et al., 2004)

Please answer the following items as they apply to you.

Mark your answer by circling the appropriate number (0-3) for each statement.

	Not at all like me	A little like me	Sometimes	Mostly like me	Very much
I have a hard time breaking bad habits.	1	2	3	4	5
I am lazy.	1	2	3	4	5
I say inappropriate things.	1	2	3	4	5
I do certain things that are bad for me, if they are fun.	1	2	3	4	5
I refuse things that are bad for me.	1	2	3	4	5
I wish I had more self-discipline.	1	2	3	4	5
I am good at resisting temptation.	1	2	3	4	5
People would say that I have iron self-discipline.	1	2	3	4	5
I have trouble concentrating.	1	2	3	4	5
I am able to work effectively toward long-term goals.	1	2	3	4	5
Sometimes I can't stop myself from doing something, even if I know it's wrong.	1	2	3	4	5
I often act without thinking through all the alternatives.	1	2	3	4	5
Pleasure and fun sometimes keep me from getting work done.	1	2	3	4	5

Appendix 13: The Youth Inventory-4

(YI-4). (Diagnostic and Statistical Manual of Mental Disorders, fifth Edition– DSM-5; APA, 2013).

	Never	**Some-times**	**Often**	**Very often**
I often bully, threaten, or intimidate others.	0	1	2	3
I often initiate physical fights.	0	1	2	3
I have used a weapon that can cause serious physical harm to others (e.g. a bat, brick, broken bottle, knife, gun).	0	1	2	3
I have been physically cruel to people.	0	1	2	3
I have been physically cruel to animals.	0	1	2	3
I have stolen while confronting a victim (e.g. mugging, purse snatching, extortion, armed robbery).	0	1	2	3
I have forced someone into sexual activity.	0	1	2	3
I have deliberately engaged in fire setting with the intention of causing serious damage.	0	1	2	3
I have deliberately destroyed others' property (other than by fire setting).	0	1	2	3
I have broken into someone else's house, building, or car.	0	1	2	3
I often lie to obtain goods or favors or to avoid obligations (i.e., "cons" others).	0	1	2	3
I have stolen items of nontrivial value without confronting a victim (e.g. shoplifting, but without breaking and entering; forgery).	0	1	2	3
I often stay out at night despite parental prohibitions, beginning before age 13 years.	0	1	2	3
I have run away from home overnight at least twice while living in the parental or parental surrogate home, or once without returning for a lengthy period.	0	1	2	3
I am often truant from school, beginning before age 13 years.	0	1	2	3
Bx. How often do the behaviours above make it harder to do schoolwork, get along with others, or work on a job?	0	1	2	3

Appendix 14: Demographic Information.

1. Gender: ❾ male ❾ female

2. Age (in years): _____

3. Year of schooling: _____
4. Religion: _____
5. Ethnicity: _____
6. Number of siblings: _____
7. Birth order: _____
8. Mother tongue: _____
9. Are you living with both your parents? _____ *Yes* _____ *No*
   If no, are you living?
   _____ with your mother
   _____ with your father
   _____ with your relatives (e.g. grandparents)
   _____ other (please specify) _____

10. Is your mother working? _____ *Yes* _____ *No*
11. Is your father working? _____ *Yes* _____ *No*
12. Mother's highest education: _____
13. Father's highest education: _____

Appendix 15: Participant (opt out) Consent Form
(Page 1 of 2)

Title of Research Project: Adolescents perception of risky behaviour

Your Adolescents/young adults school/youth group is taking part in a research study to look at adolescent's perception of risky behaviours, under the supervision of Professor Cecilia Essau. The study will be conducted in a usual classroom setting.

The survey is likely to be conducted on --/--/--. As part of the research your adolescent will be asked to complete a short questionnaire at their school/youth group (which will take between 30-45 minutes to complete). The questionnaire will focus on adolescent's perception of risky behaviours. Then using a laptop an experiment will be conducted (20 mins.) to access likelihood of choosing short-term gains over long-term ones (identified in study 1). Maximum time taken for questionnaires and experiment 1 hour 5 mins. Later participant will re-do the original questionnaires to access stability over time.

The findings of this study will be used to help researchers and practitioners find new ways to tackle specific behaviours.

The questionnaire is completely *anonymous*, *confidential and results will not be shared*. We will not be collecting any information about your child's identity; the records will be strictly confidential, and no data will be used as part of *any* form of assessment of your child. Individual schools/youth groups or individuals will *not* be identified in any form of report and publication. It will not be possible to for you or your child's school to obtain a copy of your son/daughters results under any - circumstances, regardless of how they answer the questionnaire.

Participation is entirely voluntary, and you may refuse for your son(s)/daughter(s) to take part or ask for the data to be withdrawn without negative consequences. After the questionnaire completion all adolescents/young adults will receive a debrief sheet with a unique participant number. Please quote the participant number in any correspondence to the research team. If you wish to withdraw please contact the research team before December 2014.

I have a fully enhanced up to date DBS certificate and have extensive research experience in school settings.

Please note: if you have a concern about any aspect of your participation or any other queries please raise this with the investigator (or if the researcher is a student you can also contact the Director of Studies). However, if you would like to contact an independent party please contact the Head of Department.

Investigator Contact Details:
Sharon Allan,
Department of Psychology
Whiteland's College,
Roehampton University,
Holybourne Avenue,
London, SW15 4JD.
Email: sharon.allan@roehampton.ac.uk
Tel: 0208 392 3000

Director of Studies
Professor Cecilia Essau
Department of Psychology
Whitelands College
Roehampton University
Holybourne Avenue
London SW15 4JD
Email: C.Essau@roehampton.ac.uk
Tel: (020) 8392 3647

Head of Psychology
Dr Diane Bray
Department of Psychology
Whitelands College
Roehampton University
Holybourne Avenue
SW15 4JD
Email: d.bray@roehampton.ac.uk
Tel: (020) 8392 3627

Consent Statement:

Title of Research Project: Adolescents perception of risky behaviour

I understand that by not sending back a withdrawal form I agree for my adolescent/young adult to take part in this research and am aware that I am free to withdraw this at any point without giving a reason, although if I do so I understand that their data may still be used in a collated form. I understand that the information provide will be treated in confidence by the investigator and that identities will be protected in the publication of any findings, and that data will be collected and processed in accordance with the Data Protection Act 1998 and with the University's Data Protection Policy. However, there may be some instances in which the investigator may be required to break confidentiality, such as if there are concerns about a serious harm to participants or others

Withdrawal

*Your signature below indicates that you **do not** wish for your child to take part in this research.*

Title of Research Project: Adolescents perception of risky behaviour

Name of Parent/Guardian (print):

_____

Signature of Parent/Guardian: _____

Date: _____

There are limits to confidentiality participant who are happy to participate into eh focus group (semi-structured interview is asked to provide their participant number and name to ensure that the researcher can match existing data to the interview data. Subject to the requirements of legislation, including the Data Protection Act, information obtained about a participant during an investigation is confidential unless otherwise agreed in advance. Therefore, I notify you that confidentiality and/or anonymity cannot be guaranteed, and it is important that you know this in advance of agreeing to participate. However, any identifying information will only be known by the researcher and director of studies.

Appendix 16: PARTICIPANT DEBRIEF

Participant ID number:

Title of Research Project: Adolescents perception of risky behaviour

Thank you very much for taking part in this study, we greatly appreciate your contribution.

This study was conducted to examine your knowledge about risky behaviour in adolescence. All data gathered during this study will be held securely and anonymously. If you wish to withdraw from the study, contact us with your participant number (above) and your information will be deleted from our files. Please be aware, however, that data in summary form may already have been used for publication at the time of request.

Please note: if you have a concern about any aspect of your participation or any other queries please raise this with the investigator (or if the researcher is a student you can also contact the Director of Studies). However, if you would like to contact an independent party please contact the Head of Department.

INVESTIGATOR CONTACT DETAILS:

SHARON ALLAN,

DEPARTMENT OF PSYCHOLOGY

WHITELAND'S COLLEGE,

ROEHAMPTON UNIVERSITY,

HOLYBOURNE AVENUE,

LONDON, SW15 4JD.

EMAIL: SHARON.ALLAN@ROEHAMPTON.AC.UK

TEL: 0208 392 3000

DIRECTOR OF STUDIES

PROFESSOR CECILIA ESSAU

DEPARTMENT OF PSYCHOLOGY

WHITELANDS COLLEGE

ROEHAMPTON UNIVERSITY

HOLYBOURNE AVENUE

LONDON SW15 4JD

EMAIL: C.ESSAU@ROEHAMPTON.AC.UK

TEL: (020) 8392 3647

HEAD OF PSYCHOLOGY

DR DIANE BRAY

DEPARTMENT OF PSYCHOLOGY

WHITELANDS COLLEGE

ROEHAMPTON UNIVERSITY

HOLYBOURNE AVENUE

SW15 4JD

EMAIL: D.BRAY@ROEHAMPTON.AC.UK

TEL: (020) 8392 3627

Alternatively, if you are troubled or worried about any aspects of the study, or issues it may have raised, please feel free to contact the following agency:

Help for children & young people, by phone (FREE) on **0800 1111**

ChildLine (http://www.childline.org.uk/Talk/Pages/Email.aspx)

Get connected http://www.getconnected.org.uk/

By phone (FREE) on **0808 808 4994 (**Open f–om 1pm - 11pm every day)

Appendix 17: PARTICIPANT (AUDIO/VIDEO) CONSENT FORM

Title of Research Project: Adolescents/young adults' perception of risky behaviour

Brief Description of Research Project, and What Participation Involves:

Researcher based in the Department of Psychology, Roehampton University in London. I have a fully enhanced up to date DBS certificate and have extensive research experience in school settings. Conducting a large project, to look at adolescents/young adults' belief of risky behaviours, under the supervision of Professor Cecilia Essau. The study will be conducted in a usual classroom/institution setting.

This study will examine an in-depth understanding of the **various aspects of anti-social behaviour (e.g. experience with a wide range of anti-social behaviour and views about risk factors of anti-social behaviour) through a semi-structured interview.**

The interview will take place at a manned community center during opening hours. All interviews will be audio-taped and analysed offline.

An example of question to be asked: What do you think makes young people become involved in anti-social behaviour? Discuss.

Investigator Contact Details:

Sharon Allan Department of Psychology
Whiteland's College,
Roehampton University,
Holybourne Avenue,
London, SW15 4JD.
Email: sharon.allan@roehampton.ac.uk
Tel: 0208 392 3000

Consent Statement:

I agree to take part in this research and am aware that I am free to withdraw at any point without giving a reason, although if I do so I understand that my data might still be used in a collated form. I understand that the information I provide will be treated in confidence by the investigator and that my identity will be protected in the audio recording/publication of any findings, and that data will be collected and processed in accordance with the Data Protection Act 1998 and with the University's Data Protection Policy.

Childs Name (if applicable) …….

Name ……

Signature ……

Date ……

Please note: if you have a concern about any aspect of your participation or any other queries please raise this with the investigator (or if the researcher is a student you can also contact the Director of Studies.) However, if you would like to contact an independent party please contact the Head of Department.

Director of Studies

Professor Cecilia Essau

Department of Psychology

Whitelands College

Roehampton University

Holybourne Avenue

London SW15 4JD

Email: C.Essau@roehampton.ac.uk

Tel: (020) 8392 3647

Head of Psychology

Dr Diane Bray

Department of Psychology

Whitelands College

Roehampton University

Holybourne Avenue

SW15 4JD

Email: d.bray@roehampton.ac.uk

Tel: (020) 8392 3627

There are limits to confidentiality participant who are happy to participate into eh focus group (semi-structured interview is asked to provide their participant number and name to ensure that the researcher can match existing data to the interview data. Subject to the requirements of legislation, including the Data Protection Act, information obtained about a participant during an investigation is confidential unless otherwise agreed in advance. Therefore, I notify you that confidentiality and/or anonymity cannot be guaranteed, and it is important that you know this in advance of agreeing to participate. However, any identifying information will only be known by the researcher and director of studies.

Appendix 18: Participant (16-17-year-old) Consent Form

Title of Research Project: Adolescents perception of risky behaviour

Your school/youth group is taking part in a research study to look at adolescent's perception of risky behaviours, under the supervision of Professor Cecilia Essau. The study will be conducted in a usual classroom setting.

The survey is likely to be conducted on --/--/--. As part of the research you will be asked to complete a short questionnaire at your school/youth group (which will take between 25-30 minutes to complete). The questionnaire will focus on adolescent's perception of risky behaviours. Then using a laptop an experiment will be conducted (20 mins) to access likelihood of choosing short-term gains over long-term ones (identified in study 1). Later participant will re-do the original questionnaires to access stability over time.

The findings of this study will be used to help researchers and practitioners find new ways to tackle specific behaviours.

The questionnaire is completely *anonymous*, *confidential and results will not be shared*. We will not be collecting any information about your identity; the records will be strictly confidential, and no data will be used as part of *any* form of assessment of you. Individual schools/youth groups or individuals will *not* be identified in any form of report and publication. It will not be possible to for your parents or your school to obtain a copy of your son/daughters results under any circumstances, regardless of how they answer the questionnaire.

Participation is entirely voluntary, and you may refuse to take part or ask for the data to be withdrawn without negative consequences. After the questionnaire completion you will receive a debrief sheet with a unique participant number. Please quote the participant number in any correspondence to the research team. If you wish to withdraw please contact the research team before December 2015.

I have a fully enhanced up to date DBS certificate and have extensive research experience in school settings.

Investigator Contact Details:

Sharon Allan**,**
Department of Psychology
Whiteland's College,
Roehampton University,
Holybourne Avenue,
London, SW15 4JD.
Email: sharon.allan@roehampton.ac.uk
Tel: 0208 392 3000

Director of Studies **Head of Psychology**

Professor Cecilia Essau
Department of Psychology
Whitelands College
Roehampton University
Holybourne Avenue

London SW15 4JD
Email : C.Essau@roehampton.ac.uk
Tel: (020) 8392 3647

Dr Diane Bray
Department of Psychology
Whitelands College
Roehampton University
Holybourne Avenue

SW15 4JD
Email : d.bray@roehampton.ac.uk
Tel: (020) 8392 3627

Consent Statement:

I agree to take part in this research and am aware that I am free to withdraw at any point without giving a reason, although if I do so I understand that my data might still be used in a collated form. I understand that the information I provide will be treated in confidence by the investigator and that my identity will be protected in the audio recording/publication of any findings, and that data will be collected and processed in accordance with the Data Protection Act 1998 and with the University's Data Protection Policy.

Name ……..

Signature ……

Date ……

Please note: if you have a concern about any aspect of your participation or any other queries please raise this with the investigator (or if the researcher is a student you can also contact the Director of Studies.) However, if you would like to contact an independent party please contact the Head of Department.

Appendix 19: Minor Amendment ethics form got intervention study

NAME: SHARON ALLAN **DEPARTMENT**: PSYCHOLOGY	**ETHICS REFERENCE**: PSYC 11/ 012

University of Roehampton London

ETHICS
MINOR AMENDMENT FORM
(March 2014)

Please use this form if any changes are made to your project:

PLEASE CHECK THE RELEVANT BOX

(NB. double click on the check box and select 'checked')

MEMBER OF STAFF ☐ RESEARCH STUDENT ×☐ (MPhil, PhD, EdD, PsychD)

EXTERNAL INVESTIGATOR ☐ STUDENT (Other) ☐

PERSONAL DETAILS	
Name (lead):	SHARON ALLAN
Other investigators:	N/A
Email:*(all correspondence will be sent by email unless otherwise requested)*	Sharon.allan@roehampton.ac.uk
FOR STUDENTS ONLY:	
Programme of study:	PhD (MPhil)Psychology
Mode of study (full-time/part-time)	Part time
Director of Studies: (If you are on a taught course please give the name of your tutor)	PROF.CECILIA ESSAU
FOR EXTERNAL INVESTIGATORS ONLY (please see Section 4.5 of the Ethical Guidelines):	
Name of Academic Assessor:	N/A

PROJECT DETAILS	
Title of project:	SUPERSKILLS FOR LIFE (ORIGINAL APPROVAL REFEERENCE PSYC 11/012)

PLEASE CHECK THE RELEVANT Box

(NB. double click on the check box and select 'checked')

MEMBER OF STAFF

RESEARCH STUDENT × (MPhil, PhD, EdD, PsychD)

EXTERNAL INVESTIGATOR

STUDENT (Other)

PERSONAL DETAILS

Name (lead):	SHARON ALLAN	
Other investigators:	N/A	
Email:*(all correspond-ence will be sent by email unless otherwise requested)*	Sharon.allan@roehampton.ac.uk	
FOR STUDENTS ONLY:		
Programme of study:	PhD (MPhil)Psychology	
Mode of study (full-time/part-time)	Part time	
Director of Studies: (If you are on a taught course please give the name of your tutor)	PROF.CECILIA ESSAU	
FOR EXTERNAL INVESTIGATORS ONLY (please see Section 4.5 of the Ethical Guidelines):		
Name of Academic Assessor:	N/A	

PROJECT DETAILS

Title of project:	SUPER SKILLS FOR LIFE (ORIGINAL APPROVAL REFERENCE PSYC 11/012)		
Start date:	01/04/15	Approval Date of Ethics Application:	13.06.11
Please briefly outline the changes made to your project and reasons for these			

The reference number of the original application is PSYC 11/ 012, in the name of Katere Pourseied. The amendment is from a different person than the original applicant as I am knowing the lead researcher in implementing the Super skills for life project as part of my PhD study, all other details are still the same.

Applicant's Signature: SHARON ALLAN

Please use an electronic signature or type your name

Date: 11/02/15

OFFICE USE ONLY

Approved (minor –changes - no further action required)
Departmental approval needed (Ethics Approval Form attached)
Other – see comments below

COMMENTS

Name & Position:

Date:

There are limits to confidentiality participant who are happy to participate into eh focus group (semi-structured interview is asked to provide their participant number and name to ensure that the researcher can match existing data to the interview data. Subject to the requirements of legislation, including the Data Protection Act, information obtained about a participant during an investigation is confidential unless otherwise agreed in advance. Therefore, I notify you that confidentiality and/or anonymity cannot be guaranteed, and it is important that you know this in advance of agreeing to participate. However, any identifying information will only be known by the researcher and director of studies.

-

Appendix 21: Correlation - YSR Factors

Table 3.12 Correlation
YSR factors

	2	3	4	5	6	7	8	9	10
1 YSR withdrawn	.407**	.628**	.625**	.618**	.412**	.397**	.451**	.653**	.129*
	304	302	308	306	306	302	298	302	297
2 YSR somatic complaints		.415**	.350**	.406**	.376**	.481**	.564**	.520**	.205**
		308	314	312	312	310	308	300	303
3 YSR anxious depressed			.658**	.593**	.521**	.435**	.508**	.620**	.238**
			312	312	310	308	306	298	301
4 YSR social problems				.556**	.613**	.427**	.474**	.623**	.087
				316	316	312	308	302	307
5 YSR thought problems					.430**	.431**	.616**	.700**	.188**
					314	312	308	302	305
6 YSR attention problems						.442**	.496**	.456**	.381**
						310	306	300	305
7 YSR rule breaking problems							.669**	.519**	.521**
							308	300	301
8 YSR aggressive problems								.682**	.393**
								298	297
9 YSR other Problems									.141*
									291
10 Antisocial behaviour all YI-4 (DSM5) and SAHA									

**. Correlation is significant at the .01 level (2-tailed).

*. Correlation is significant at the .05 level (2-tailed).

Appendix 22: Correlation – all factors

	1. ICU total	2. Setting (clinical or community)	3. externalizing syndrome	4. attention problems	5. rulebreaking problems	6.. total YSR	7. DRUGUSE	8.antisocial behaviour	9. impulsivity	10. self discipline	11. impulsive aggressive acts	12. BART-Y average	13. IAT total correct on incompatible tasks IAT1	14. IAT total correct on compatible tasks IAT1	15. IAT Mean (RT) on incompatible tasks	16. IAT Mean (RT) on compatible tasks	17. FITC Mean (RT)
1	1	.262	.485*	.433*	.663**	.237	.076	.153	.366	.340	.053	-.233	.144	-.120	-.123	.099	-.039
2		1	-.157	.108	.195	-.195	-.515**	.711**	.535**	.313	.183	.097	-.449*	-.239	.052	-.229	.136
3			1	.403*	.766**	.761**	.456*	-.121	-.009	.056	-.127	.172	.160	.068	.001	.105	-.118
4				1	.347	.670**	-.210	.162	.260	.147	.167	-.162	.187	.069	-.005	.148	-.062
5					1	.454*	.216	.093	.189	.218	-.066	.101	.191	.065	.069	.081	-.050
6						1	.406*	-.269	-.207	-.196	.137	.045	.169	.055	.163	.263	-.149
7							1	-.771**	-.695**	-.482*	.238	-.058	.166	-.038	.169	.218	-.225
8								1	.822**	.598**	-.392*	.073	-.289	-.053	-.174	-.272	.152
9									1	.830**	-.434*	.004	-.019	.114	-.268	-.208	.146
10										1	-.646**	-.106	.160	.023	-.235	.033	.170
11											1	.034	-.127	-.187	.238	-.015	-.129
12												1	-.197	.234	.003	-.215	.160
13													1	.348	-.311	.302	-.311
14														1	-.529**	-.499**	-.300
15															1	.581**	.358
16																1	.231
17																	1

.= *. Correlation is significant at the 0.05 level (2-tailed). =
,= **. Correlation is significant at the 0.01 level (2-tailed).

BIBLIOGRAPHY

Achenbach, T. M., & Edelbrock, C. S. (1978). The classification of child psychopathology: A review and analysis of empirical efforts. *Psychological Bulletin, 85*(6), 1275-1301.

Achenbach, T. M. (1991). *Manual for the Youth Self-Report and 1991 Profile.* Burlington: Department of Psychiatry, University of Vermont.

Achenbach, T. M., Dumenci, L., & Rescorla, L. A. (2002). Ten-year comparisons of problems and competencies for national samples of youth. *Journal of Emotional and Behavioural Problems, 10*(4), 194-203.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC: Author.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: Author.

Anastassiou-Hadjicharalambous, X., & Warden, D. (2008a). Cognitive and affective perspective-taking in conduct-disordered children high and low on callous-unemotional traits. *Child and Adolescent Psychiatry and Mental Health, 2,* 16.

Anastassiou-Hadjicharalambous, X., & Warden, D. (2008b). Physiologically-indexed and self-perceived affective empathy in conduct-disordered children high and low on callous-unemotional traits. *Child Psychiatry and Human Development,39,* 503–517.

Andershed, H., Gustafson, S. B., Kerr, M., & Stattin, H. (2002). The usefulness of self-reported psychopathy-like traits in the study of antisocial behaviour

among non-referred adolescents. *European Journal of Personality, 16,* 383–402.

Anderson, P. (2002). Assessment and development of executive function (EF) during childhood. *Child Neuropsychology, 8*(2), 71-82.

Armsden, G. C., & Greenberg, M. T. (1987). The inventory of parent and peer attachment: Individual differences and their relationships to psychological well-being in adolescents. *Journal of Youth and Adolescents, 16*(5), 421-454.

Arnett, J. J. (2006). 'G. Stanley Hall's Adolescence: Brilliance and Nonsense', *History of Psychology*, *9*(3).186-197.

Atherton, O, E., Ferrer, E., & Robins, R., W. (2018). The Development of Externalising Symptoms from Late Childhood Through Adolescence: A Longitudinal -Study of Mexican-Origin Youth. *Developmental Psychology, 54*(6), 1135–1147.

Babiak, P. & Hare, R.D. (2006). *Snakes in Suits, When Psychopaths Go to Work*, Harper Collins: New York.

Baddeley, A. (1998). The central executive: A concept and some misconceptions. *Journal of the International Neuropsychological Society, 4(5),* 523–526.

Baker, P.M., & Gallant, M.J. (1984). Self Esteem Measurement strategies and problems. *Journal of Social Relations, 12*(1), 36-48.

Barry, C.T., Frick, P.J., Grooms, T., McCoy, M.G., Ellis, M.L., & Loney, B.R. (2000). The importance of callous unemotional traits for extending the concept of psychopathy to children. *Journal of Abnormal Psychology, 109,* 335–340.

Beauchaine, T. P., Webster-Stratton, C., & Reid, M. J. (2005). Mediators, moderators, and predictors of 1-year outcomes among children treated for

early-onset Conduct Problems: A latent growth curve analysis. *Journal of Consulting and Clinical Psychology, 73,* 371–388.

Bechtold, J., Cavanagh, C., Shulman, E., & Cauffman, E. (2013). Does mother know best? Adolescent and mother reports of impulsivity and subsequent delinquency. *Journal of Youth and Adolescence, 43,*1903–1913.

Ben-Amos, I. K. (1991). 'Failure to Become Freemen: Urban apprentices in early modern England', *Social History, 16*(2),155-172.

Ben-Amos, I. K. (1994) *Adolescence and Youth in Early Modern England*. London: Yale University Press.

Ben-Amos, I. K. (1995) 'Adolescence as a Cultural Invention: Philippe Ariès and the sociology of youth', *History of the Human Sciences*, *8*(2), 69-89.

Biederman, J., Petty, C., Dolan, C.R., Hughes, S., Mick, E., Monuteaux, M. C., & Faraone, S. V. (2008). The long-term longitudinal course of oppositional defiant disorder and conduct disorder in ADHD boys: Findings from a controlled 10-year prospective longitudinal follow-up study. *Psychological Medicine, 38*(7),1027–1036.

Blair, R.J.R. (2005). Responding to the emotions of others: Dissociating forms of empathy through the study of typical and psychiatric populations. *Consciousness and Cognition,14*,698–718.

Blair, R. J. R., Colledge. E., Murray, L., & Mitchell, D.G. (2001). A selective impairment in the processing of sad and fearful expressions in children with psychopathic tendencies. *Journal of Abnormal Child Psychology, 29*,491–498.

Blair, R. J. R., Colledge, E., & Scott, S. K. (2005). Deafness to fear in boys with psychopathic tendencies. *Journal of Child Psychology and Psychiatry, 46,* 327–336.

Blair, R. J., Leibenluft, E., & Pine, D. S. (2014). Conduct disorder and callous–unemotional traits in youth. *New England Journal of Medicine, 371*, 2207-2216.

Blair, R. J. R., Mitchell, D., & Blair, K. (2005). *The psychopath: Emotion and the brain*. Malden, MA: Blackwell.

Blair, R.J.R., Peschardt, K.S., Budhani, S., Mitchell, D.V.G., & Pine, D.S. (2006). The development of psychopathy. *Journal of Child Psychology & Psychiatry, 47*(3/4),262–275.

Blakemore, S., J. & Choudhury, S. (2006). Development of the adolescent brain: implications for executive function and social cognition. *Journal of Child Psychology & Psychiatry,47*(3-4),296-312.

Blascovich, J., & Tomaka, J. (1991). *Measures of social psychological attitudes.* (1). Measures of personality and social psychological attitudes (115-160). San Diego, CA, US: Academic Press.

Burke, J. D., Loeber, R., Lahey, B. B., & Rathouz, P.J. (2005). Developmental transitions among affective and behavioural disorders in adolescent boys. *Journal of Child Psychology and Psychiatry,46,*1200-1210.

Burke, J. D., Rowe, R., & Boylan, K. (2014). Functional outcomes of child and adolescent oppositional defiant disorder symptoms in young adult men. *Journal of Child Psychology and Psychiatry, 55(3),*264–272.

Burton, S. (2006). Over to you: Group work to help pupils avoid school exclusion. *Educational Psychology in Practice, 22*, 215–236.

Caldwell, M. (2013). *Treatment of Adolescents with Psychopathic Features. In Kent A. Kiehl & Walter Sinnott-Armstrong (Eds.),* Handbook on Psychopathy & Law. 150-160. New York: Oxford University Press.

Caldwell, M. F., McCormick, D., Wolfe, J., & Umstead, D. (2012). Treatment-Related Changes in Psychopathy Features and Behaviour in Adolescent Offenders. *Criminal Justice and Behaviour, 39*(2), 144-155.

Campbell, J. C., Harris, M.J., & Lee, R. K. (1995). Violence research: An overview. Scholarly *Inquiry for Nursing Practice,9,*105–126.

Campbell, S, B., Shaw, D, S., & Gilliom, M. (2000). Early externalising behaviour problems: Toddlers and preschoolers at risk for later maladjustment. *Development and Psychopathology,12,*467–488.

Caputo, A.A., Frick, P.J., & Brodsky, S.L. (1999). Family violence and juvenile sex offending: Potential mediating roles of psychopathic traits and negative attitudes toward women. *Criminal Justice and Behaviour, 26,* 338–356.

Carroll, A., Hemingway, F., Bower, J., Ashman, A., Houghton, S., & Durkin, K. (2016). Impulsivity in Juvenile Delinquency: Differences among Early-Onset, Late-Onset, and Non-Offenders. *Journal of Youth and Adolescence, 35(4),* 519-529.

Christian, R. E., Frick, P. J., Hill, N. L., Tyler, L., & Frazer, D. R. (1997). Psychopathy and conduct problems in children: Implications for subtyping children with conduct problems. *Journal of the American Academy of Child & Adolescent Psychiatry, 36,* 233–241.

Cohen, A. K. (1966) *Deviance and Control*. Englewood Cliffs: Prentice-Hall Inc.

Cohen, P., Cohen, J., Kasen, S., Velez, C. M., Hartmark, C., Johnson, J., Rojas, M., Brook, J., & Steuning, E. L. (1993). An Epidemiological Study of Disorders

in Late Childhood and Adolescence, Age and Gender-Specific Prevalence, *The journal of child psychology & psychiatry, 34*(3), 851-867.

Cohen, S. (1985) *Visions of Social Control*. Cambridge: Polity Press.

Cohen, S. (2002) *Folk Devils and Moral Panics: The creation of the Mods and Rockers.* [3rd Edition]. London: Routledge.

Coolidge, F.L., DenBoer, J.W., & Segal, D.L. (2004). Personality and neuropsychological correlates of bullying behaviour. *Personality and Individual Differences, 36,* 1559–1569.

Cook-Sather, A. (2008). 'Newly Betwixt and Between: Revising liminality in the context of a teacher preparation program', *Anthropology and Education Quarterly, 37*(2),110-127.

Costello, E.J., Pescosolido, B.A., Angold, A., & Burns, B.J. (1998). A family network-based model of access to child mental health services. In J. Morrissey (Ed.), *Research in community mental health* (165–190). Greenwich, CT: JAI.

Costello, E.J., Mustillo, S., Erkanli, A., Keeler, G., & Angold, A. (2003). Prevalence and development of psychiatric disorders in childhood and adolescence. *Archives of General Psychiatry, 60,* 837–844.

Crick, N. R. (1995). Relational aggression: The role of intent attributions, feelings of distress, and provocation type. *Development and Psychopathology, 7,* 313–322.

Crick, N. R., & Dodge, K.A. (1994). A review and reformulation of social information-processing mechanisms in children's social adjustment. *Development and Psychopathology, 115*(1), 74-101.

Crick, N. R., Grotpeter, J. K., & Bigbee, M. A. (2002). Relationally and physically aggressive children's intent attributions and feelings of distress for relational and instrumental peer provocations. *Child Development, 73*, 1134–1142.

Cronbach, L. J. (1957). The two disciplines of scientific psychology. *American Psychologists, 12,* 671-684.

Crone, E.A. (2009). Executive functions in adolescence: inferences from brain and behaviour. *Developmental science review.12,* (6). 825–830.

Dadds, M. R., Fraser, J., Frost, A., & Hawes, D. J. (2005). Disentangling the underlying dimensions of psychopathy and conduct problems in childhood: A community study. *Journal of Consulting and Clinical Psychology, 73*, 400–410.

Dadds, M. R., Hawes, D. J., Frost, A. D. J., Vassallo, S., Bunn, P. B., Hunter, K., & Merz, S. (2009). Learning to 'talk the talk': The relationship of psychopathic traits to deficits in empathy across childhood. *Journal of Child Psychology & Psychiatry, 50*, 599–606.

Dahnke, H.L. (2013). *Hostile Attribution Bias as a Mediator Between Psychopathy, Narcissism, and Aggression*. John Jay College of Criminal Justice.

Davidson, R.J., Jackson, D. C., & Kalin, N. H. (2000). Emotion, Plasticity, Context, and Regulation Perspectives from Affective Neuroscience. *American Psychological Association, 126*(6), 890-909.

DeLisi, M., Neppl, T.K., Lohman, B.J., Vaughn, M.G., & Shook, J.L. (2013). Early starters: Which type of criminal onset matters most for delinquent careers? *Journal of Criminal Justice, 41,* 12-17.

Dishion, T.J. McCord, J., Poulin, F. (1999). When interventions harm: Peer groups and problem behaviour. *American Psychologist, 54*(9), 755-764.

Disraeli, I. (1864) *Curiosities of Literature*. London: Riverside Press.

Dodge, K.A. (1980). Social Cognition and 'children's Aggressive Behaviour. *Child Development, 51*(1), 162-170

Dodge, K.A. (1993). Social-Cognitive Mechanisms in the Development of Conduct Disorder and Depression. *Annual review of psychology, 44,* 559-584.

Dodge, K. A., & Pettit, G. S. (2003). A biopsychosocial model of the development of chronic conduct problems in adolescence. *Developmental Psychology, 39*(2), 349-371.

Dodge, K.A., Pettit, G.S., Bates, J.E., & Valente, E. (1995). Social information-processing patterns partially mediate the effect of early physical abuse on later conduct problems. *Journal of Abnormal psychology, 104,* 632–643

Dolan, M., & Fullam, R., (2004). Behavioural and psychometric measures of impulsivity in a personality disordered population. *Journal of Forensic Psychiatry and Psychology, 15*, 426–450.

Dupire., Lacourse, E., Willms, J.D., Vitaro, F., & Tremblay, R.E. (2007). Affiliation to Youth Gangs During Adolescence: The Interaction Between Childhood Psychopathic Tendencies and Neighborhood Disadvantage. *Journal of Abnormal Child Psychology, 35*(6), 1035–1045.

Durlak, J.A., & Wells, A.M. (1997). Primary Prevention Mental Health Programmes for Children and Adolescents: A Meta-Analytic Review. *American Journal of Community Psychology*,*25*(2),115-152.

Ebesutani, C., Bernstein, A., Martinez, J. I., Chorpita, B, F., & Weisz, J, R. (2011). The Youth Self Report: Applicability and Validity Across Younger and Older Youths, *Journal of Clinical Child & Adolescent Psychology, 40(*2), 338-346.

Eisenbarth, H., Demetriou, C.A., Kyranides, M. N., & Fanti, K. A. (2016). Stability Subtypes of Callous-Unemotional Traits and Conduct Disorder Symptoms and Their Correlates. *Journal of Youth & adolescence, 45*(9),1889-901

Ellis, M.L., Weiss, B., & Lochman, J.E. (2009). Executive functions in children: associations with aggressive behaviour and appraisal processing. *Journal of Abnormal Child Psychology,* 37, 945.

Enebrink, P., Andershed, H., & Langstrom, N. (2005). Callous–unemotional traits are associated with clinical severity in referred boys with conduct problems. *Nordic Journal of Psychiatry, 59,* 431–440.

Essau, C.A. (2004). Risk-taking behaviour in German adolescents. *Journal of Youth Studies, 7,* 501-514.

Essau, C.A., & Anastassiou-Hadjicharalambous, X. (2011). Conduct disorder and oppositional defiant disorder. In A.S. Davis (ed.), *The Handbook of Pediatric Neuropsychology*.; Springer Publishing.

Essau, C.A., Olaya, B., Sasagawa, S., Pithia, J., Bray, D., & Ollendick, T.H. (2014). Integrating video-feedback and cognitive preparation, social skills training and behavioural activation in a cognitive behavioural therapy in the treatment of childhood anxiety. *Journal of Affective Disorders, 167,* 261–267.

Essau, C. A & Ollendick, T. (2013). Super skills for Life.

Essau, C. A., Sasagawa, S., & Frick, P.J. (2006a). Psychometric Properties of the Alabama Parenting Questionnaire. *Journal of Child and Family Studies, 15(5*) 597–616.

Essau, C. A., Sasagawa, S., & Frick, P. J. (2006b). Callous-Unemotional Traits in a Community Sample of Adolescents. *Assessment, 13*(4), 454-469.

Fanti, K. A., Demetriou, C. A., & Kimonis, E. R. (2013). Variants of callous–unemotional conduct problems in a community sample of adolescents. *Journal of Youth and Adolescence, 42*(7), 964–979.

Farrington, D. P. (1989). 'Self-reported and Official Offending from Adolescence to Adulthood', in M. W. Klein, ed., Cross-National Research in *Self-Reported Crime and Delinquency.* Dordrecht: Kluwer. 399-423.

Farrington, D. (1995). The Twelfth Jack Tizard Memorial Lecture: The development of offending and antisocial behaviour from childhood: Key findings from the Cambridge Study in Delinquent Development. *Journal of Child Psychology & Psychiatry, 36,* 929–964.

Feehan, M., McGee, R., Raja, S, N., & Williams, S, M., (1994), DSM-III-R disorders in New Zealand 18-year olds. *Australian and New Zealand Journal of Psychiatry, 28,* 87–99.

Feldman, J., & Kazdin, A. E. (1995). Parent management training for oppositional and conduct problem children. *The Clinical Psychologist, 48*, 3-5.

Fergusson, D. M., Horwood, L. J., & Lynskey, M. T., (1993). Prevalence and co-morbidity of DSM-III-R diagnoses in a birth cohort of 15-year old's. *Journal American Academic Child Adolescence Psychiatry, 32*,1127–1134.

Fisher, L., & Blair, R.J.R. (1998). Cognitive impairment and its relationship to psychopathic tendencies in children with emotional and behavioural difficulties. *Journal of Abnormal Child Psychology, 26,* 511–519.

Fonseca-Pedrero, E., Sierra-Baigrie, S., Lemos-Giráldez, S., Paino, M., & Muñiz, J. (2012). Dimensional structure and measurement invariance of the youth self-report across gender and age. *Journal of Adolescent Health, 50*(2),148-53.

Fontaine, N., Barker, E. D., Salekin, R. T., & Viding, E. (2008). Dimensions of psychopathy and their relationships to cognitive functioning in children. *Journal of Clinical Child and Adolescent Psychology, 37*, 690–696.

Forth, A. E., Kosson, D. S., & Hare, R. D. (2003). *The Psychopathy Checklist: Youth Version manual.* Toronto, Ontario, Canada: Multi Health Systems.

Fossum, S., Handegard, B.H., Martinussen, M., & Morch, W.T. (2008). Psychosocial interventions for disruptive and aggressive behaviour in children and adolescents: a meta-analysis. *European Child and Adolescent Psychiatry, 17*(7), 438-451.

Fowles, D. C., & Dindo, L. (2006). A Dual-Deficit Model of Psychopathy. In C. J. Patrick (Ed.), *Handbook of psychopathy* (14-34). New York, NY, US: Guilford Press.

Frey, A., Ruchkin, V., Martin, A., & Schwab-Stone, M. (2009). Adolescents in Transition: School and Family Characteristics in the Development of Violent Behaviours Entering High School. *Child Psychiatry & Human Development, 40*, 1–13.

Frick, P.J. (1998). Callous-Unemotional Traits and Conduct Problems: Applying the Two-Factor Model of Psychopathy to Children. In: Cooke D.J., Forth A.E., Hare R.D. (eds) Psychopathy: *Theory, Research and Implications for Society.* NATO ASI Series (Series D: Behavioural and Social Sciences), 88. Springer, Dordrecht.

Frick, P. J. (2004). *Inventory of callous–unemotional traits*. Unpublished rating scale. University of New Orleans, New Orleans, LA.

Frick, P. J., Bodin, S. D., & Barry, C. T. (2000). Psychopathic traits and conduct problems in community and clinic-referred samples of children: Further

development of the Psychopathy Screening Device. *Psychological Assessment, 12,* 382–393.

Frick, P. J., Cornell, A. H., Barry, C. T., Bodin, S. D., & Dane, H. A. (2003a). Callous-unemotional traits and conduct problems in the prediction of conduct problem severity, aggression, and self-report of delinquency. *Journal of Abnormal Child Psychology, 31*, 457–470.

Frick, P. J., Cornell, A. H., Bodin, S. D., Dane, H. A., Barry, C. T., & Loney, B. R. (2003b). Callous-unemotional traits and developmental pathways to severe aggressive and antisocial behaviour. *Developmental Psychology, 39,* 246–260.

Frick, P.J., Lilienfeld, S.O., Ellis, M.L., Loney, B.R., & Silverthorn, P. (1999). The association between anxiety and psychopathy dimensions in children. *Journal of Abnormal Child Psychology, 27*, 381–390.

Frick, P.J., & Loney, B.R. (1999). Outcomes of children and adolescents with conduct disorder and oppositional defiant disorder. In H.C. Quay & A. Hogan (Eds.), *Handbook of disruptive behaviour disorders* (507–524). New York: Plenum.

Frick, P. J., & Marsee, M. A. (2006). Psychopathy and developmental pathways to antisocial behaviour in youth. In C. J. Patrick (Ed.), *Handbook of psychopathy* (355–374). New York, NY: Guilford Press.

Frick, P., & Morris, A. S. (2004). Temperament and developmental pathways to conduct problems. *Journal of Clinical Child and Adolescent Psychology, 33,* 54–68.

Frick, P. J., O'Brien, B. S., Wootton, J. M., & McBurnett, K. (1994). Psychopathy and conduct problems in children. *Journal of Abnormal Psychology, 103,* 700–707.

Frick, P. J., Ray, J. V., Thornton, L. C., & Kahn, R. E. (2013). Annual Research Review: A developmental psychopathology approach to understanding callous-unemotional traits in children and adolescents with serious conduct problems. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 55*(6), 532-548.

Frick, P. J., Ray, J. V., Thornton, L. C., & Kahn, R. E. (2014a). Can callous-unemotional traits enhance the understanding, diagnosis, and treatment of serious conduct problems in children and adolescents? A comprehensive review. *Psychological Bulletin, 140,* 1–57.

Frick, P. J., Ray, J. V., Thornton, L. C., & Kahn, R. E. (2014b). Annual research Review: A developmental psychopathology approach to understanding callous-unemotional traits in children and adolescents with serious conduct problems. *Journal of Child Psychology & Psychiatry, 55*(6), 532–548.

Frick, P. J., & White, S. F. (2008). The importance of callous-unemotional traits for the development of aggressive and antisocial behaviour. *Journal of Child Psychology and Psychiatry, 49,* 359–375.

Frogner, L., Gibson, C.L., Andershed, A.K., & Andershed, H. (2018). Childhood Psychopathic Personality and Callous–Unemotional Traits in the Prediction of Conduct Problems. *American Journal of Orthopsychiatry, 88*(2), 211–225.

Fukunaga, R., Brown, J. W., & Bogg, T. (2012). Decision making in the Balloon Analogue Risk Task (BART-Y): Anterior cingulate cortex signals loss

aversion but not the infrequency of risky choices. *Cognitive, Affective, & Behavioural Neuroscience, 12*(3), 479–490.

Ghafoori, B., & Tracz,S,M. (2004). Effectiveness of Cognitive-Behavioural Therapy in Reducing Classroom Disruptive Behaviours: A Meta-Analysis. *Educational Resources Information Center (ERIC).*

Gillis, J. R. (1975) 'The Evolution of Juvenile Delinquency in England 1890–1914', *Past and Present, 67*(1), 96-126.

Goodman, R. (1997). The Strengths and Difficulties Questionnaire: A research note. *Journal of Child Psychology and Psychiatry, 38,* 581–586.

Goodman, R., & Scott, S. (1997). *Child Psychiatry*. Oxford: Blackwell Science.

Gottfredson, G. D., Gottfredson, D. C., Czech, E. R., Cantor, D., Crosse, S. B., Hantman, I. (2000). National study of delinquency prevention in schools. Ellicot City, MD: Gottfredson Associates.

Gournay, K., (2001). Mental health nursing in 2001: What happens next? *Journal of Psychiatric and Mental Health Nursing, 8*, 473–476.

Gray, J.A. (1994). Framework for a taxonomy of psychiatric disorder. In S.H.M. van Goozen, N.E. van de Poll & J. Sergeant (Eds.). *Emotions: Essays on emotion therapy*.29-59. Hillsdale NJ: Erlbaum.

Greenwald, A. G., McGhee, D. E., & Schwartz, K. L. (1998). "Measuring individual differences in implicit cognition: The Implicit"Association Test". *Journal of Personality and Social Psychology, 74*, 1464–1480.

Greenwald, A. G., Nosek, B. A., & Banaj, M. R. (2003). "Understanding and using the Implicit Association Test: I. An improved Scoring algorithm". *Journal of Personality and Social Psychology, 85,*197–216.

Greenwald, A. G., Nosek, B. A., Banaji, M. R.,& Klaue, K. C. (2005). "Validity of the salience asymmetry interpretation of the IAT: Comment on Rothermund a"d Wentura (2004)". *Journal of Experimental Psychology: General, 134*, 420–425.

Greenwald, A. G., Poehlman, T. A., Uhlmann, E., & Banaj, M. R. (2009). "Understanding and using the Implicit Association Test: III. Meta-analysis of predictive validity". *Journal of Personality and Social Psychology, 97*, 17–41.

Gross, J.J., & Thompson, R.A., (2009). Emotion regulation: conceptual foundations. In: Gross, J.J. (Ed.), *Handbook of emotion regulation*. The Guilford Press, New York, 3–24.

Hall, J., & Benning, S. (2006) The "successful' psychopath. *Handbook of psychopathy*. C.J. Patrick Ed., London: Guildford.

Hancock, M., Tapscott, J. L., & Hoaken, P. N. S. (2010). Role of executive dysfunction in predicting frequency and severity of violence. *Aggressive Behaviour, 36,* 338–49.

Hann, D. M. (2002). *Taking stock of risk factors for child/youth externalising behaviour problems*. National Institute of Mental Health..

Hare, R. D. (1991). *The Hare Psychopathy Checklist–Revised*. Toronto: Multi-Health Systems.

Hare, R. D. (1993). *Without a conscience: The disturbing world of the psychopaths among us.* New York, NY: Pocket.

Hawes, D. J., & Dadds, M. R. (2007). Stability and malleability of callous-unemotional traits during treatment for childhood conduct problems. *Journal of Clinical Child and Adolescent Psychology, 36,* 347– 355.

Herba, C.M., Tranah, T. Rubia, K & Yule, W. (2010). Conduct Problems in Adolescence: Three Domains of Inhibition and Effect of Gender, *Developmental Neuropsychology, 30*(2), 659-695.

Hinshaw, S. P. (1987). On the distinction between attentional deficits/risk taking and conduct problems/ aggression in child psychopathology. *Psychological Bulletin,101*,443–463.

Hinshaw, S.P., Lahey, B.B., & Hart, E.L. (1993). Issues of taxonomy and comorbidity in the development of conduct disorder. *Development and Psychopathology, 5*, 31–50.

Hitchcock, C. A., Chavira, D. A., & Stein, M. B. (2009). Recent findings in social phobia among children and adolescents. *The Israel journal of psychiatry and related sciences, 46*(1), 34 -44.

Hoaken, P.N.S., Shaughnessy, V. K. & Pihl, R.O. (2003), Executive cognitive functioning and aggression: Is it an issue of impulsivity? *Aggressive Behaviour, 29*,15–30.

Hobson, C. W., Scott, S., & Rubia, K. (2011). Investigation of cool and hot executive function in ODD/CD independently of ADHD. *Journal of Child Psychology and Psychiatry, and Allied Disciplines, 52(10),* 1035–43.

Hoffman, S. G., Asnaani, A., Vonk, I. J., Sawyer, A. T., & Fang, A. (2012). The efficacy of cognitive behavioural therapy: a review of meta-analyses. *Cognitive Therapy and Research, 36*(5), 427–440.

Home Office (1986) *Public Order Act.* London: HMSO.

Home Office (1997a) *Tackling Youth Crime: A consultation paper*. London: HMSO.

Home Office (1997b) *No More Excuses - A New Approach to Tackling Youth Crime in England and Wales.* [White Paper]. London: HMSO.

Home Office (1998a) *Crime and Disorder Act*. London: HMSO.

Home Office (1998b) *Crime and Disorder Act: Guidelines*. London: HMSO.

Home Office (2003a) *Anti-social Behaviour Act*. London: HMSO.

Home Office (2003b) *Respect and Responsibility - Taking a stand against anti-social behaviour*. London: HMSO.

Home Office (2004a) *Defining and Measuring Anti-Social Behaviour.* [Home Office Development and Practice Report]. London: Research, Development and Statistics Directorate.

Home Office (2004b) *Anti-Social Behaviour - A collection of published evidence*. London: Research and Development Statistics.

Home Office (2011) *More Effective Responses to Anti-social Behaviour: Consultation. February*. London: Home Office.

Hopko, D. R., Lejuez, C. W., Daughters, S. B., Aklin, W. M., Osborne, A., Simmons, B. L., & Strong, D. R. (2006). Construct Validity of the Balloon Analogue Risk Task (BART): Relationship with MDMA Use by Inner-City Drug Users in Residential Treatment. *Journal of Psychopathology and Behavioural Assessment, 28*(2), 95-101.

Hughes, C., Dunn, J., & White, A. (1998). Trick or treat? Uneven understanding of mind and emotion and executive dysfunction in "hard to manage" preschoolers. *Journal of child psychology and psychiatry, 39*, 981–994.

Huizinga, M., Dolan, C. V., & van der Molan, M. W. (2006). Age-related changes in executive function: Developmental trends and a latent variable analysis. *Neuropsychologia, 44,* 2017–2036.

Huizinga, M., & Smidts, D.P. (2011). Age-related changes in executive function: A normative study with the Dutch version of the Behaviour Rating Inventory of Executive Function (BRIEF). *Child Neuropsychology,17*(1),51–66.

Hunt, M. K., Hopko, D. R., Bare, R., Lejuez, C. W., & Robinson, E. (2005). Construct Validity of the Balloon Analog Risk Task (BART): *Associations with Psychopathy and Impulsivity. Assessment, 12*(4), 416-428.

Ishikawa, S. S., & Raine, A. (2003). Prefrontal deficits and antisocial behaviour: A causal model. In B. B. Lahey, T. E. Moffitt, & A. Caspi (Eds.), *Causes of conduct disorder and juvenile delinquency* (277-304). New York, NY, US: Guilford Press.

Jaffee, S.R., Caspi, A., Moffitt, T.E., Taylor, A. (2004). Physical Maltreatment Victim to Antisocial Child: Evidence of an Environmentally Mediated Process. *Journal of Abnormal Psychology, 113*(1), 44-55.

Jaffee, S.R., Caspi,A., Moffitt,T.E., Dodge, K.A., Rutter, M.,Taylor, A., & Tully, L.A. (2005). Nature nurture: Genetic vulnerabilities interact with physical maltreatment to promote conduct problems. *Development and Psychopathology, 17*, 67–84.

Jessor, R. (1987), Problem-Behaviour Theory, Psychosocial Development, and Adolescent Problem Drinking. *British Journal of Addiction, 82*, 331–342.

Jessor, R. (1991). Risk behaviour in adolescence: a psychosocial framework for understanding and action. *Journal of Adolescent health, 12(8),* 597-605.

Johnson, V.A., Kemp, A.H., Heard, R., Lennings, C.J., & Hickie, I.B. (2015) Childhood- versus Adolescent-Onset Antisocial Youth with Conduct Disorder: Psychiatric Illness, *Neuropsychological and Psychosocial Function. PLoS ONE 10(4):* e0121627.

Jones, A. P., Happe, F. G. E., Gilbert, F., Burnett, S., & Viding, E. (2010). Feeling, caring, knowing: Different types of empathy deficit in boys with psychopathic tendencies and autism spectrum disorder. *Journal of Child Psychology and Psychiatry, 51*, 1188–1197.

Kapphahn, C.J., Morreale, M.C., Rickert, V.I., & Walker, L.R. (2006). Financing mental health services for adolescents: A position paper of the Society for Adolescent Medicine. *Journal of Adolescent Health, 39,* 456–458.

Kazdin, A.E. (2009). Understanding how and why psychotherapy leads to change. *Journal of the society for Psychotherapy Research, 19*(4-5),418-28.

Kendall, P.C., & Choudhury, M.S. (2003). Children and Adolescents in Cognitive–Behavioural Therapy: Some Past Efforts and Current Advances, and the Challenges in Our Future. *Cognitive Therapy and Research, 27*, 89.

Kerr, M., Van Zalk, M., & Stattin, H. (2012). Psychopathic traits moderate peer influence on adolescent delinquency. *Journal of Child Psychology and Psychiatry, 53*, 826–835.

Kessler, R. C., Avenevoli, S., Costello, E. J., Georgiades, K., Green, J. G., Gruber, M. J., Jian-ping, M. S., Koretz, D., McLaughlin, K. A., Petukhova, M., Sampson, N. A., Zaslavsky, A. M., & Ries- Merikangas, K. (2012). Prevalence, Persistence, and Sociodemographic Correlates of DSM-IV Disorders in the National Comorbidity Survey Replication Adolescent Supplement. *Archive of General Psychiatry, 69*(4), 372–380.

Kiehl, K.A., &, Lushing, J. (2014). Psychopathy. Scholarpedia, 9(5),30835.

Kim-Cohen, J., Moffitt, T.E., Taylor, A., Pawlby, S.J., & Caspi, A. (2014). Nature & Nurture effects. Arch Gen Psychiatry,62(2),173-181.

Kimonis, E. R., Frick, P. J., & Barry, C. T. (2004). Callous-unemotional traits and delinquent peer affiliation. Journal of Consulting and Clinical Psychology, 72, 956–966. doi:10.1037/0022-006X.72.6.956

Kimonis, E. R., Frick, P. J., Cauffman, E., Goldweber, A., & Skeem, J. (2012). Primary and secondary variants of juvenile psychopathy differ in emotional processing. *Development and Psychopathology, 24,* 1091– 1103.

Kimonis, E. R., Frick, P. J., Fazekas, H., & Loney, B. R. (2006). Psychopathy, aggression, and the emotional processing of emotional stimuli in non-referred girls and boys. *Behavioural Sciences & the Law, 24*, 21–37

Kimonis, E. R., Frick, P. J., Muñoz, L. C., & Aucoin, K. J. (2008a). Callous-unemotional traits and the emotional processing of distress cues in detained boys: Testing the moderating role of aggression, exposure to community violence, and histories of abuse. *Development and Psychopathology, 20,* 569–589.

Kimonis, E. R., Frick, P. J., Skeem, J., Marsee, M. A., Cruise, K., Munoz, L. C., & Morris, A. S. (2008b). Assessing callous–unemotional traits in adolescent offenders: Validation of the inventory of callous– unemotional traits. *Journal of the International Association of Psychiatry and Law, 31,* 241–252.

Kleinbaum, D.G., Kupper, L.L., & Morgenstern, H. (1982). *Epidemiologic research: Principles and quantitative methods*. New York, NY: Van Nostrand Reinhold.

Kockler, T. R., Stanford, M.S., Nelson, C. E., Meloy, J. R., & Sanford, K. (2006). Characterizing aggressive behaviour in a forensic population. *American Journal of Orthopsychiatry, 76*(1), 80-85.

Kroneman, L. M., Hipwell, A. E., Loeber, R., Koot, H. M., & Pardini, D. A. (2011). Contextual risk factors as predictors of disruptive behaviour disorder trajectories in girls: The moderating effect of callous unemotional features. *Journal of Child Psychology and Psychiatry, 52,* 167–175.

Krueger, R. F., Markon, K. E., Patrick, C. J., Benning, S. D., & Kramer, M. D. (2007). Linking antisocial behaviour, substance use, and personality: An integrative quantitative model of the adult externalising spectrum. *Journal of Abnormal Psychology, 116*(4), 645-666.

Kruh, I.P., Frick, P.J., & Clements, C.B. (2004). Historical and personality correlates to the violence patterns of juveniles tried as adults. *Criminal Justice and Behaviour,32,*69-96.

Lahey, B.B., & Loeber, R. (1994). Framework for a developmental model of oppositional defiant disorder and conduct disorder. In D. K. Routh (Ed.). *Disruptive behaviour disorders in childhood*. New York: Plenum Press.

Lahey, B.B., Van Hulle, C.A., Waldman, I.D., Rodgers, J.L., D'Onofrio, B.M., Pedlow, S., Rathouz, P., & Keenan, K. (2006). Testing descriptive hypotheses regarding sex differences in the development of conduct problems and delinquency. *Journal of Abnormal Child Psychology, 34,*737–755.

Laible, D.J., Carlo, G., & Raffaelli, M. (2000). The Differential Relations of Parent and Peer Attachment to Adolescent Adjustment. *Journal of Youth and Adolescence, 29*(1), 45-49.

Larmar, S. (2006). The use of cognitive therapy as a means of facilitating cognitive behavioural instruction for adolescents with disruptive behaviour. *Australian Journal of Guidance and Counselling, 16,* 233–248.

Lawing, K., Frick, P. J., & Cruise, K. R. (2010). Differences in offending patterns between adolescent sex offenders high or low in callous unemotional traits. *Psychological Assessment, 22,* 298–305.

Lehto, J. E., Juujärvi, P., Kooistra, L., & Pulkkinen, L. (2003), Dimensions of executive functioning: Evidence from children. *British Journal of Developmental Psychology, 21,* 59–80.

Lejuez, C. W., Aklin, W. M., Bornovalova, M. A., & Moolchan, E. (2005). Adolescent smoking status as a function of risk-taking propensity and impulsive sensation seeking. *Nicotine and Tobacco Research, 7*, 71–79.

Lejuez, C. W., Aklin, W. M., Daughters, S. B., Zvolensky, M. J., Kahler, C. W., & Gwadz, M. (2007). Reliability and validity of the youth version of the Balloon Analogue Risk Task (BART-Y) in the assessment of risk-taking behaviour among inner-city adolescents. *Journal of Clinical Child and Adolescent Psychology, 36*, 106-111.

Lejuez, C. W., Aklina, W. M., Zvolenskyb, M. J., Pedulla, C. M. (2003). Evaluation of the Balloon Analogue Risk Task (BART) as a predictor of adolescent real-world risk-taking behaviours. *Journal of Adolescence*, *26*, 475-479.

Lejuez, C. W., Read, J. P., Kahler, C. W., Richards, J. B., Ramsey, S. E., Stuart, G. L., Strong, D. R., & Brown, R. A. (2002). Evaluation of a behavioural measure of risk-taking: The Balloon Analogue Risk Task (BART). *Journal of Experimental Psychology: Applied, 8*, 75-84.

Lilienfeld, S. O., Watts, A. L., & Smith, S. F. (2015). Successful psychopathy: A scientific status report. *Current Directions in Psychological Science, 24(4)*, 298–303.

Loeber, J.D., Burke, J.D., Winter, A., & Zera, M. (2000). Oppositional Defiant and Conduct Disorder: A Review of the Past 10 Years, Part I. *Journal of American Academy of Child & adolescent psychiatry, 39*(12), 1468–1484.

Loeber, R., & Farrington, D.P. (2000). Young children who commit crime: epidemiology, developmental origins, risk factors, early interventions, and policy implications. *Development and Psychopathology,* 12(4),737-62.

Loney, B. R., Frick, P. J., Clements, C. B., Ellis, M. L., & Kerlin, K. (2003). Callous-unemotional traits, impulsivity, and emotional processing in antisocial adolescents. *Journal of Clinical Child and Adolescent Psychology, 32,* 139-152.

Lynam, D.R. (1998). Early identification of the fledgling psychopath: Locating the psychopathic child in the current nomenclature. *Journal of Abnormal Psychology,107,* 566–575.

Lynam, D. R., & Henry, B. (2001). The role of neuropsychological deficits in conduct disorders. In J. Hill & B. Maughan (Eds.), *Cambridge child and adolescent psychiatry. Conduct disorders in childhood and adolescence* (235-263). New York, NY, US: Cambridge University Press.

Maloney, P.W., Grawitch, M.J., & Barber, L.K. (2012). The multi-factor structure of the Brief Self-Control Scale: Discriminant validity of restraint and impulsivity. *Journal of research in personality,46*(1), 111-115.

Marsee, M. A., Silverthorn, P., & Frick, P. J. (2005). The association of psychopathic traits with aggression and delinquency in non-referred boys and girls. *Behavioural Sciences & the Law, 23,* 803–817.

Marsh, A. A., Finger, E. C., Mitchell, D. G. V., Reid, M. E., Sims, C., Kosson, D. S., & Blair, R. J. R. (2008). Reduced amygdala response to fearful

expressions in children and adolescents with callous-unemotional traits and disruptive behaviour disorders. *The American Journal of Psychiatry, 165,* 712–720.

Maughan, B., Rowe, R., Messer, J., Goodman, R., Meltzer, H. (2004). Conduct disorder and oppositional defiant disorder in a national sample: Developmental epidemiology. *Journal of Child Psychology and Psychiatry, 45*,609–621.

McCord, W., & McCord, J. (1964). *The psychopath: An essay on the criminal mind.* Princeton, NJ: Van Nosrand.

McEvoy, P. M., Nathan, P., & Norton, P. J. (2009). Efficacy of transdiagnostic treatments: a review of published outcome studies and future research directions. *Journal of Cognitive Psychotherapy, 23*(1), 20–33.

McMahon, R.J., & Wells, K.C. (1998). *Conduct disorder. Treatment of Childhood Disorders*. 2nd Ed. New York, NY: Guilford Press. 111-210.

Meichenbaum, D.H., & Goodman, J. (1971). Training impulsive children to talk themselves: A means of developing self-control. *Journal of Abnormal Psychology, 77,* 115-126.

Meltzer, H., Gatward, R., Goodman, R., & Ford, T. (2000). *Mental Health of Children and Adolescents in Great Britain*. London: Stationery Office.

Miyake, A., Friedman, N. P., Emerson, M. J., Witzki, A. H., Howerter, A., & Wager, T. D. (2000). The unity and diversity of executive functions and their contributions to complex "Frontal Lobe" tasks: a latent variable analysis. *Cognitive Psychology, 41*(1), 49–100.

Moffitt, T. E. (1993). Adolescence-limited and life-course persistent antisocial behaviour: a developmental taxonomy. *Psychological Review, 100,* 674-701.

Moffitt, T. (2006). A Review of the Research on the Taxonomy of Life-Course Persistent Versus Adolescence-Limited Antisocial Behaviour. In: F. T. Cullen, J. P. Wright & K. R. Blevins (eds.) *Taking Stock: The Status of Criminological Theory.* Transaction Publishers, 277-311.

Moffitt, T.E., Caspi, A., Rutter, M., & Silva, P. (2001). *Sex differences in antisocial behaviour*. Cambridge: Cambridge University Press.

Muñoz, L. C., Frick, P. J., Kimonis, E. R., & Aucoin, K. J. (2008). Types of aggression, responsiveness to provocation, and callous-unemotional traits in detained adolescents. *Journal of Abnormal Child Psychology, 36*, 15–28.

Muncie, J. (1999). 'Institutionalized Intolerance: Youth Justice and the 1998 Crime and Disorder Act', *Critical Social Policy*, 19, 147-175.

Muncie, J. (2004) *Youth and Crime*. London: Sage.

Muncie, J. (2006) 'Governing Young People: Coherence and contradiction in contemporary youth justice', *Critical Social Policy*, *26*(4), 770-793.

Muncie, J. (2009) *Youth and Crime*. London: Sage.

Neinstein, L. S., Lu, Y., Perez, L., & Tysinger, B. (2013). The new adolescents: An analysis of health conditions, behaviours, risks, and access to services in the United States compared to California, among emerging young adults: Regulating positive and negative emotions in daily life. *Journal of Personality*, *76*(3), 561-580.

Nezlek, J. B., & Kuppens, P. (2008). Regulating positive and negative emotions in daily life. *Journal of Personality, 76*(3), 561-580.

Nigg, J. T. (2000). On inhibition/disinhibition in developmental psychopathology: views from cognitive and personality psychology and a working inhibition taxonomy. *Psychological Bulletin*, *126*(2), 220.

Nock, M.K., Kazdin, A.E., Hiripi, E., Kessler, R.C. (2007). Lifetime prevalence, correlates, and persistence of oppositional defiant disorder: Results from the National Comorbidity Survey Replication. *Journal of Child Psychology and Psychiatry, 48*,703–713.

Nosek, B. A., Greenwald, A. G.,& Banaji, M. R. (2005). "Understanding and using the Implicit Association Test: II. Method variables and construct validity". *Personality and Social Psychology Bulletin, 31*, 166–180.

O'Brien, B.S., & Frick, P.J. (1996). Reward dominance: Associations with anxiety, conduct problems, and psychopathy in children. *Journal of Abnormal Child Psychology, 24,* 223–240.

Odgers, C., Caspi, A., Poulton, R., Harrington, H.L., Thomson, M., Broadbent, J., Dickson, N., Sears, M., Hancox, B., & Moffitt, T, E. (2007). Conduct problem subtypes predict differential adult health burden. *Archives of General Psychiatry, 64*, 476–484.

Orobio de Castro, B., Veerman, J. W., Koops, W., Bosch, J. D., & Monsouwer, H. J. (2002). Hostile attribution of intent and aggressive behaviour: A meta-analysis. *Child Development, 73*, 916-934.

Pardini, D.A, Lochman, J.E, & Frick, P.J. (2003). Callous/unemotional traits and social cognitive processes in adjudicated youth. *Journal of the American Academy of Child and Adolescent Psychiatry, 42*,364–371.

Pardini, D. A., Lochman, J. E., & Powell, N. (2007). The development of callous-unemotional traits and antisocial behaviour in children: Are there shared and/or unique predictors? *Journal of Clinical Child and Adolescent Psychology, 36*, 319–333.

Pardini, D., Obradovic, J., & Loeber, R. (2006). Interpersonal callousness, risk taking/impulsivity, inattention, and conduct problems as precursors to delinquency persistence in boys: A comparison of three grade-based cohorts. *Journal of Clinical Child and Adolescent Psychology, 35,* 46–59.

Patrick, C.J., & Drislane, L.E. (2015). Triarchic Model of Psychopathy: Origins, Operationalizations, and Observed Linkages with Personality and General Psychopathology. *Journal of personality*,*83*(6), 627-643.

Patterson, G. R., Reid, J. B., & Dishion, T. J. (1992). *Antisocial boys*. Eugene, OR: Castalia.

Pearson, G. (1983). *Hooligan: A history of respectable fears*. London: MacMillan.

Pearson, G. (2006). 'Disturbing Continuities: 'Peaky blinders' to 'hoodies'', *Criminal Justice Matters*, *65*(1), 6-7.

Pearson, G. (2009). 'A Jekyll in the Classroom, a Hyde on the Street': Queen Victoria's hooligans. *In*: A. Millie (ed.) *Securing Respect: Behavioural Expectations and Anti-social Behaviour in the UK*. Bristol, England: Policy Press.

Pennington, B. F., & Ozonoff, S. (1996). Executive functions and developmental psychopathology. *Journal of Child Psychology and Psychiatry, 37*(1), 51–87.

Pihet, S., Combremont M., Suter, M. & Stephan, P. (2012). Cognitive and emotional deficits associated with minor and serious delinquency in high-risk adolescents. *Psychiatry Psychology and Law, 19,* 427–38.

Prencipe, A., Kesek, A., Cohen, J., Lamm, C., Lewis, M. D., & Zelazo, P. D. (2011). Development of hot and cool executive function during the transition to adolescence. *Journal of Experimental Child Psychology, 108*(3), 621–37.

Punch, K. F. (2014). *Introduction to social research: quantitative and qualitative approaches* (3rd ed.). London: Sage Publications Ltd.

Quay, H. C. (1993). The psychobiology of under socialised aggressive conduct disorder. *Development and Psychopathology, 5*, 165–180.

Raine, A. (2002a). Biosocial studies of antisocial and violent behaviour in children and adults: A review. *Journal of Abnormal Child Psychology, 30,* 311–326.

Raine, A. (2002b). Annotation: The role of prefrontal deficits, low autonomic arousal, and early health factors in the development of antisocial and aggressive behaviour in children. *Journal of Child Psychology and Psychiatry, 43*,417–434.

Raine, A., Venables, P. H., & Williams, M. (1990). Relationships between central and autonomic measures of arousal at age 15 years and criminality at age 24 years. *Archives of General Psychiatry, 47,* 1003–1007.

Rescorla, L., Achenbach, T., Ivanova, M. Y., Dumenci, L., Almqvist, F., Bilenberg, N., Bird, H., Chen, W.J., Dobrean, A., Döpfner, M., Erol, N., Fombonne, E., Fonseca, A.C., Frigerio, A., Grietens, H., Hannesdottir, H., Kanbayashi, Y., Lambert, M.C., Larsson, B., Leung, P., Liu, X., Minaei, A., Mulatu, M.S., Novik, T.S., Oh, K.J., Roussos, A., Sawyer, M., Simsek, Z., Steinhausen, H-C., Weintraub, S., Weisz, J., Winkler, C.M., Wolanczyk, T., Yang, H-J., Zilber, N., Zukauskiene, R., & Verhulst, F.C. (2007). Behavioural and emotional problems reported by parents of children ages 6 to 16 in 31 societies. *Journal of Emotional and Behavioural Problems, 15(3),* 130-142.

Riccio, C.A., Lockwood Hewitt, L.L. & Blake, J.J. (2011) Relation of Measures of Executive Function to Aggressive Behaviour in Children, *Applied Neuropsychology, 18(1),* 1-10.

Roberts, R.E., Roberts, C.R., Xing, Y. (2007). Rates of DSM-IV psychiatric disorders among adolescents in a large metropolitan area. *Journal Psychiatry Research,41,* 959-967.

Romano, E., Tremblay, E., & Vitaro, F. (2001). Prevalence of psychiatric diagnoses and the role of perceived impairment: Findings from an adolescent community sample. *Journal of Child Psychology and Psychiatry, 42,* 451–461.

Roose, A., Bijttebier, P., Claes, L., & Lilienfeld, S. O. (2011). Psychopathic traits in adolescence: Associations with the revised reinforcement sensitivity theory systems. *Personality and Individual Differences, 50,* 201–205.

Rosenberg, M. (1965). *Society and the adolescent self-image.* Princeton, NJ: Princeton University Press.

Rothermund, K., & Wentura, D. (2004). "Underlying processes in the Implicit Association Test (IAT): Dissociating salience from associations". *Journal of Experimental Psychology: General, 133,* 139–165.

Roussy, S., & Touppin, J. (2000). Behavioural inhibition deficits in juvenile psychopaths. *Journal of aggressive behaviour, 26*(6), 413–424.

Ruchkin, V., Schwab-Stone, M., Vermeiren, R. (2004). *Social and Health Assessment (SAHA): psychometric development summary.* New Haven: Yale University.

Ruttledge, R. A., & Petrides, K.V. (2011). A cognitive behavioural group approach for adolescents with disruptive behaviour in schools. *School Psychology International, 33*(2), 223–239.

Sadeh, N., & Verona, E. (2008). Psychopathic personality traits associated with abnormal selective attention and impaired cognitive control. *Neuropsychology, 22*(5), 669.

Salekin, R. T. (2006). Psychopathy in children and adolescents: Key issues in conceptualization and assessment. In C. J. Patrick (Ed.), *Handbook of psychopathy* (389–414). New York, NY: Guilford Press.

Sampson, R.J., Raudenbush, S.W., & Earls. F. (1997). Neighborhoods and violent crime: a multilevel study of collective efficacy. *Science 277,*918–24.

Scheuren, F. (1980). *What is a survey?* Retrieved on11/012/2018. https://www.whatisasurvey.info/overview.htm.

Schmeichel, B. J. (2007). Attention control, memory updating, and emotion regulation temporarily reduce the capacity for executive control. *Journal of Experimental Psychology. General, 136*(2), 241–255.

Séguin, J.R., Boulerice, B., Harden, P., Tremblay, R.E., & Pihl, R.O. (1999). Executive functions and physical aggression after controlling for attention deficit risk taking disorder, general memory, and IQ. *Journal of Child Psychology and Psychiatry, 40,*1197–1208.

Séguin, J. R., & Zelazo, P. D. (2005). Executive Function in Early Physical Aggression. In R. E. Tremblay, W. W. Hartup, & J. Archer (Eds.), *Developmental origins of aggression* (pp. 307-329). New York, NY, US: Guilford Press.

Serin, R.C. (1991). Psychopathy and Violence in Criminals. *Journal of interpersonal violence, 6*(4), 423-431.

Shaw, C.R., McKay, H.D., & Hayner, N.S. (1942). *Juvenile delinquency and urban areas: A study of rates of delinquents in relation to differential characteristics of local communities in American cities.* University of Chicago Press: Chicago.

Silverthorn, P., Frick, P.J., & Reynolds, R. (2001). Timing of onset and correlates of severe conduct problems in adjudicated girls and boys. *Journal of Psychopathology and Behavioural Assessment, 23,* 171–181.

Skeem, J. L., & Cauffman, E. (2003). Views of the downward extension: Comparing the Youth Version of the Psychopathy Checklist with the Youth Psychopathic Traits Inventory. *Behavioural Sciences & the Law, 21,* 737–770.

Spreng, N.R., McKinnon, M.C., Mar, R.A., & Levine, B. (2011). The Toronto Empathy Questionnaire: Scale Development and Initial Validation of a Factor-Analytic Solution to Multiple Empathy Measures, *Journal of Personality Assessment, 91*(1), 62-71.

Springhall, J. (1977). *Youth, Empire, and Society: British youth movements, 1883-1940*. London: Croom Helm Ltd.

Springhall, J. (1986). *Coming of Age: Adolescence in Britain, 1860-1960*. Dublin: Gill and Macmillan.

Springhall, J. (1994). 'Disseminating Impure Literature': The 'Penny Dreadful' publishing business since 1860', *The Economic History Review*, Vol. 47, No. 3, pp. 567-584.

SPSS Statistics (Version 25) [Computer Software]. Chicago, IL: IBM.

Squires, G. (2001). Using cognitive behavioural psychology with groups of pupils to improve self-control behaviour. *Educational Psychology in Practice, 17*, 317–335.

Squires, G., & Caddick, K. (2012). Using Group Cognitive Behavioural Therapy Intervention in School Settings with Pupils Who Have Externalising Behavioural Difficulties: An Unexpected Result. *Emotional and Behavioural Difficulties*, *17*, 25-45.

Sriram, N., & Greenwald, A. G. (2009). "The Brief Implicit Association Test". *Experimental Psychology*, *56*, 283–294.

Stanford, M. S., Houston, R. J., & Baldridge, R. M. (2008). Comparison of impulsive and premeditated perpetrators of intimate partner violence. *Behavioural Sciences & the Law, 26*(6), 709–722.

Stangor, C. (2004). *Research methods for the behavioural sciences* (2nd ed). Boston: Houghton Mifflin Company.

Steinberg, L. (2005). Cognitive and affective development in adolescence. *Trends in Cognitive sciences. 9*(2). 69-74.

Steinhausen, H. C., Metzke, C. W., Meier, M., & Kannenberg, R. (1998). Prevalence of child and adolescent psychiatric disorders: the Zurich Epidemiological Study. *Acta Psychiatrica Scandinavia*, *98*, 262 – 272.

Stemmler, G., (1997). Selective activation of traits: boundary conditions of the activation of anger. *Personality and Individual Differences, 22*, 213–233.

Stevens, G.W., Dueling, J.K., & Armenakis, A. (2012). Successful psychopaths: Are they unethical decision-makers and why? *Journal of Business Ethics, 105*, 139-149.

Stringaris, A., & Goodman, R. (2009). Three dimensions of oppositionality in youth. *Journal of Child Psychology and Psychiatry, 50*, 216–223.

Synnott, A. (1983). 'Little Angels, Little Devils: A sociology of children', *Canadian Review of Sociology and Anthropology, 20*, 79-95.

Tafarodi, R. W., & Milne, A. B. (2002). Decomposing Global Self-Esteem. *Journal of Personality, 70*, 443.

Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality, 72*, 271–322.

Taylor, E., Chadwick, O., Heptinstall, E., & Danckaerts, M. (1996). Impulsivity and conduct problems as risk factors for adolescent development. *Journal of the American Academy of Child & Adolescent Psychiatry, 35*, 1213–1226.

Thornberry, T.P., Krohn, M.D., Lizotte, A.J., & Chard-Wierscem, D. (1993). The Role of Juvenile Gangs in Facilitating Delinquent Behaviour. *Journal of research into crime & delinquency,30*(1), 55-87.

Trentacosta, C. J., & Shaw, D. S. (2009). Emotional Self-Regulation, Peer Rejection, and Antisocial Behaviour: Developmental Associations from Early Childhood to Early Adolescence. *Journal of Applied Developmental Psychology*, *30*(3), 356–365.

Trochim,W., & Donnelly, J. (2006). *The research knowledge methods base.* Cincinnati, OH: Atomic Dog Publishing.

Van Baardewijk, Y., Stegge, H., Bushman, B.J.,& Vermeiren, R. (2009). Psychopathic traits, victim distress and aggression in children. *Journal of Child Psychology and Psychiatry*, *50*, 718–725.

Van Domburgh, L., Doreleijers, T.A.H., Geluk, C., & Vermeiren, R. (2011). Correlates of self-reported offending in children with first police contact from distinct sociodemographic and ethnic groups *Child and Adolescent Psychiatry and Mental Health, 5*, 22.

Van Goozen, S. H. M., Snoek, H., Matthys, W., Van Rossum, I., & Van Engeland, H. (2004). Evidence of fearlessness in behaviourally disordered children: A study on startle reflex modulation. *Journal of Child Psychology and Psychiatry, 45,* 884–892.

Van Lang, N. D. J., Ferdinand, R. F., Oldehinkel, A. J., Ormel, J., & Verhulst, F. C. (2005). Concurrent validity of the DSM-IV scales Affective Disorders and Anxiety Disorders of the Youth Self-Report. *Behaviour Research and Therapy, 43,* 1485 – 1494.

Vermeiren, R., Deboutte, D., Ruchkin, V., Schwab-Stone, M. (2002). Antisocial behaviour and mental health Findings from three European communities. *Child & Adolescent Psychiatry, 11*,168–175.

Vermeiren, R., Schwab-Stone, M., Deboutte, D., Leckman, P.E., & Ruchkin, V. (2003). Violence Exposure and Substance Use in Adolescents: Findings from Three Countries. *Pediatrics, 111*(3), 535-540.

Viding, E., Blair, R.J.R., Moffitt, T. E., & Plomin, R. (2005). Evidence for substantial genetic risk for psychopathy in 7-year old's. *Journal of Child Psychology and Psychiatry, 46,* 592–597.

Viding, E., Fontaine, N. M. G., Oliver, B. R., & Plomin, R. (2009). Negative parental discipline, conduct problems, and callous un-emotional traits: Monozygotic twin differences study. *The British Journal of Psychiatry, 195*, 414–419.

Viding, E., & McCrory, E. J. (2012). Genetic and neurocognitive contributions to the development of psychopathy. Multilevel Approaches Toward Understanding Antisocial Behaviour: Current Research and Future Directions. 24 3. *Developmental Psychopathology*, (3), 969-83.

Visser, E.M., Berger, H.J., Van Schrojenstein Lantman-De Valk, H.M., Prins, J.B., & Teunisse, J.P. (2015). Cognitive shifting and externalising problem behaviour in intellectual disability and autism spectrum disorder. *Journal of Intellectual Disability,59*(8),125-37.

Vitale, J.E., Newman, J.P., Serin, R.C., & Bolt, D.M. (2005). Hostile Attributions in Incarcerated Adult Male Offenders: An Exploration of Diverse Pathways. *Journal of Aggressive behaviour,31*, 99–115.

Vriezen, E.R., & Pigott, S.E. (2002). The relationship between parental report on the BRIEF and performance-based measures of executive function in children with moderate to severe traumatic brain injury. *Child Neuropsychology, 8*(4),296–303.

Wall, H.J., Taylor, P.J., Dixon, J., Conchie, S.M., & Ellis, D.A.(2013). Rich contexts do not always enrich the accuracy of personality judgments. *Journal of Experimental Social Psychology,49*(6),1190–1195.

Warr, M. (2002). *Companions in Crime: The Social Aspects of Criminal Conduct Cambridge Studies in Criminology.* Cambridge. England: Cambridge University Press.

Waschbusch, D. A. (2002). A meta-analytic examination of comorbid hyperactive impulsive-attention problems and conduct problems. *Psychological Bulletin, 128*(1), 118-150.

Waschbusch, D. A., Walsh, T. M., Andrade, B. F., King, S., & Carrey, N. J. (2007). Social problem solving, conduct problems, and callous unemotional traits in children. *Child Psychiatry and Human Development, 37,* 293–305.

Waschbusch, D. A., & Willoughby, M. T. (2008). Attention-deficit/ hyperactivity disorder and callous-unemotional traits as moderators of conduct problems when examining impairment and aggression in elementary school children. *Aggressive Behaviour, 34,* 139–153.

Weyandt, L.L. (2006). *The physiological bases of cognitive and behavioural disorders*. Mahwah, NJ: Lawrence Erlbaum.

Weyandt,L.L. (2010) Executive Function in Children, Adolescents, and Adults with Attention Deficit Hyperactivity Disorder: Introduction to the Special Issue, *Developmental Neuropsychology, 27*(1), 1-10.

World Health Organization, (1992). ICD-10 : *The ICD-10 Classification of Mental and Behavioural Disorders : Clinical Descriptions and Diagnostic Guidelines.* Geneva: World Health Organization.

World Health Organization, (2001). *Mental Health, A Call for Action by World Health Ministers*. Geneva: World Health Organization. Retrieved on 01/11/18 from http://www.who.int/mental_health/media/en/249.pdf.

World Health Organization (2002). *Gender and Mental Health. Geneva:* World Health Organization. Retrieved on 01/11/18 from http://whqlibdoc.who.int/gender/2002/a85573.pdf.

World Health Organization. (2004). Prevention of mental disorders: Effective interventions and policy options: Summary report. Geneva, Switzerland: *World Health Organization, Department of Mental Health and Substance Abuse.*

World Health Organization. (2007). *What is mental health?* Retrieved on 01/11/18 from http://www.who.int/features/qa/62/en/index.html.

World Health Organization. (2018). *International statistical classification of diseases and related health problems* (11th Revision).

Wiebe, S.A., Espy, K.A., & Charak, D. (2008). Using confirmatory factor analysis to understand executive control in preschool children: I. Latent structure. *Developmental Psychology, 44*,573–587.

Wiesner, M., Kim, H.K., & Capaldi, D. (2005). Developmental trajectories of offending: Validation and prediction to young adult alcohol use, drug use, and depressive symptoms. *Development and Psychopathology, 17*,251–270.

Williams, R., & Kerfoot, M. (2005). *Child and adolescent mental health services. Strategy, planning, delivery and evaluation.* Oxford ; University Press.

Wilson, S.J., & Lipsey, M.W. (2007). Effects of cognitive-behavioural programmes for criminal offenders. *Behaviour Research and Therapy*. Campbell Systematic Reviews.

Wittchen, H.U., & Essau, C.A. (1991). The epidemiology of panic attacks, panic disorder, and agoraphobia. In: J .R. Walker, G. R. Norton, C.A. Ross (eds.), *Panic Disorder and Agoraphobia: A Comprehensive Guide for the Practitioners* (pp103- 149). Belmont; Calif Brooks/Cole.

Zelazo, P.D., Müller, U., Frye, D., Marcovitch, S., Argitis, G., Boseovski, J., Chiang, J.K., Hongwanishkul, D., Schuster, B.V., & Sutherland, A. (2003). The development of executive function in early childhood. *Monographs of the society for Research in Child Development.;68*(3):1 -137.

Zuvekas, S.H., & Taliaferro, G.S. (2003). Pathways to access: Health insurance, the health care delivery system, and racial/ethnic disparities, 1996–1999. *Health Affairs, 22,* 139–153.